610.5
04

O. K. Advertising Dept.

THE JOURNAL
OF THE
OKLAHOMA STATE MEDICAL ASSOCIATION

VOLUME XXIV MUSKOGEE, OKLAHOMA, FEBRUARY, 1931. NUMBER 2

Published Monthly at Muskogee, Oklahoma, under direction of the Council.

TERRELL'S LABORATORIES
North Texas and Oklahoma Pasteur Institutes
PATHOLOGICAL BACTERIOLOGICAL SEROLOGICAL CHEMICAL
FT. WORTH - MUSKOGEE - AMARILLO
X-RAY *and* RADIUM DEPT.
FORT WORTH

Orthopedic diagnosis and treatment

HOSPITAL FOR BONE AND JOINT DISEASES
BONE AND JOINT CLINIC
TULSA BRACE AND APPLIANCE CO.

Wade Sisler, M.D. W. J. Feehan, M.D.
ORTHOPEDISTS IN CHARGE

Post-graduate interneships available; technicians trained in orthopedic physio-therapy; operative clinics daily (afternoon) at Morningside and St. John's Hospitals.

PHYSICIANS WELCOME

Eighth and Elgin Tulsa, Oklahoma

TABLE OF CONTENTS PAGE IV

UNIV. OF MICH.

LOCAL FIRM

Nationally Known

CONTRACTS FOR ANTIRABIC VACCINE
HELD WITH THE ABOVE STATES

MEDICAL ARTS LABORATORY

OKLAHOMA CITY

Diagnostic Laboratories

prepared to do all types of laboratory tests which aid in diagnosis, including:

Biopsy Specimens
Basal Metabolism
Surgical Specimens
Animal Innoculations
Post Mortem Specimens
Dark Field Examinations
Post Mortem Examinations
Blood and Urine Chemistry
X-RAY EXAMINATIONS, ALL TYPES

SEROLOGY—including Kolmer's Standard Wassermann; very sensitive Precipitation tests, Kahn, Kline's slide test; and special exclusion test useful in many cases when exclusion of Syphilis is important.

BACTERIOLOGICAL EXAMINATIONS of all types, including Widals, Sputum for T. B., Stool examinations, Agglutination tests for MALTA FEVER, and tests for Tularemia, etc.

Containers Mailed on Request.
SPECIAL RATES TO HOSPITALS AND CLINICS.

J. SCHAEFER,
Bacteriologist.

HUGH JETER, M. D.,
Director and Pathologist.

1200 North Walker, Oklahoma City.

INDEX TO CONTENTS

VOL. XXIV FEBRUARY, 1931. No. 2.

Page

Glycogen in Medical and Surgical Conditions
G. H. Stagner, M.D., C.M.
Erick 33

The Acute Surgical Abdomen
Roy Fisher, M.D.
Frederick Clinic Hospital
Frederick 35

Acute Surgical Abdomen
V. C. Tisdal, M.D.
Elk City 37

"Goiter"
Fowler Border, M.D.
The Border-McGregor Hospital and Clinic
Mangum 42

Local Anesthesia in a Country Hospital by a Country Surgeon
C. Curtis Allen
Frederick 43

Treatment of Fecal Fistula
Raymond H. Fox, M.D.
Altus 45

Tetanus, Its Frequency, Prevention and Treatment—With Report of Cases
Frank Harrison McGregor, M.D., M.C.
Mangum 47

Panoramic View of the Woman's Auxiliary to the A.M.A—in Four Articles
Mrs. W. Wayne Babcock
Philadelphia 51

EDITORIAL

Southwestern Oklahoma Hospitals 53

Duodenal Ulcer, Treatment, An Unsettled Problem 54

The Wickersham Report 55

Extension Department of the University of Oklahoma 55

Dr. George N. Bilby, State Commissioner of Health 56

Registration Under the Harrison Narcotic Act 56

Annual Meeting Committees 56

Editorial Notes—Personal and General 56-57-58

Abstract Department:

Tuberculosis 58

Orthopedic Surgery 59

Book Reviews 61

Miscellaneous 52-62

State Officers and Committees 63

Officers County Societies 64

Radium Rental Service

BY

THE PHYSICIANS RADIUM ASSOCIATION

Organized for the purpose of making radium available to physicians to be used in the treatment of their patients. Radium loaned to Physicians at moderate rental fees, or patients may be referred to us for treatment if preferred.

Careful consideration will be given inquiries concerning cases in which the use of Radium is indicated.

The Physicians Radium Association

1307 Pittsfield Bldg. 55, E. Washington St.

CHICAGO, ILL.

Telephones Central 2268-2269

Wm. L. Brown, M.D. Director

BOARD OF ADVISORS

Wm. L. Baum, M.D. Bennett R. Parker, M.D.
Frederick Menge, M.D. Walter S. Barnes, M.D.
Louis E. Schmidt, M.D. S. C. Plummer, M.D.

Mercurochrome —220 Soluble

Dibrom-Oxymercuri-Fluorescein)

THE STAIN PROVIDES FOR PENETRATION

And

FIXES THE GERMICIDE IN THE TISSUES

Mercurochrome is bacteriostatic in exceedingly high dilutions and as long as the stain is visible bacteriostasis is present. Reinfection or contamination are prevented and natural body defenses are permitted to hasten prompt and clean healing, as Mercurochrome does not interfere with immunological processes. This germicide is non-irritating and non-injurious when applied to wounds.

HYNSON, WESTCOTT & DUNNING

Baltimore, Maryland

3-6-31

610.5
O4

THE JOURNAL
OF THE
OKLAHOMA STATE MEDICAL ASSOCIATION

VOLUME XXIV MUSKOGEE, OKLAHOMA, FEBRUARY, 1931. NUMBER 2

GLYCOGEN IN MEDICAL AND SURGICAL CONDITIONS

G. H. STAGNER, M.D., C.M.
ERICK

In this brief discussion of the uses of glycogen, we will not make use of statistical quotations, as in the space allotted me it would not be possible to give very extensive statements, and sometimes partial quotations of statistics are misleading.

In the presentation of this subject, we desire to set forth some of the basic principles involved that may indicate the beneficial use of this remedy. It is the writer's personal opinion that the indiscriminate use of glycogen should not be encouraged, and that its uses should be restricted to the conditions that may be reasonably expected to respond to this remedy.

The basis of this discussion according to McDonagh's theory of the electric and other changes in the body of protein, which has been well presented by De Caux, in the British Medical Journal, issue of November, 1929, wherein he states that, if the blood of a healthy person be examined under dark ground illumination it shows a large number of little globular refractile particles in colloidal suspension, exhibiting Brownain movement. These are known as protein particles; they exist thruout all the tissues of the body, but those of the blood are most convenient for examination. Each protein particle can be compared to a solar system; its sun is the protein nucleus, and its planets, in order of their distance from the nucleus, are fats, amino-acids, urea and uric acid, sugar, inorganic salts, and electrons. The whole system is kept together by water, as is the solar system by gravity. It is always being attacked by hostile substances, whether chemical products or micro-organisms, which tend to break it up. The most distant "planets", since they are the least closely attached, are the first to split off. An invader therefore, would strip off the electrons first, their electrical energy is dissipated in the form of heat and the body temperature rises. This appears clinically as fever. Then the salts are broken off, those which the plasma cannot hold are excreted in the urine. As the attack develops, the sugar, urea and uric acid, amino-acids, and, lastly, the fats are reft from the protein nucleus and dissolved in the plasma, leaving the nucleus bare. In the end this itself fades away into true solution. As these planets are stripped away one by one, the water in which they swim is set free, the process therefore, is called "dehydration." Some of the particles, however, undergo dispersion, that is to say, they subdivide to a certain point and there stop; there is a numerical increase and, in places where their volume exceeds that of the liquid present, the liquid and solid colloidal phases of the blood may be reversed. Instead of being a suspension of solid particles in a watery medium, it becomes a suspension of liquid globules in a solid medium; in other words it sets like a jelly. This is called gelatinization, and when it happens the patient suffers from intravascular clotting and thrombosis, which in turn, cause the clinical signs of cerebral sinusitis, hemiplegia, pulmonary embolism, and thrombosis, hyperemesis gravidarum, phlegmasia alba dolens, and a host of other conditions.

Gelatinization may occur primarily, it occurs more often secondarily, as a clinical change of hydration. This explains why venous thrombosis is met with more frequently after operations and in the puerperium.

Hydration may be suddenly produced by certain drugs, for instance, with a large nucleus like insulin, which produces a lowering of surface tension. When this happens, the swollen or agglutinated particles may be precipitated from the blood stream in masses large enough to block the capillaries. This change produces the condition known as shock, which may be cerebral, pulmonary, or splanchnic, according to the viscus in which precipitation chiefly takes place.

The behaviour of the protein particles

gives a valuable guide to the anesthetist, first, in preparing the patient and secondly, in averting the ill effects of the shock which are inseparable from all anesthesia. One of the most interesting facts which appear from a study of the protein particles, is that anesthesia and pregnancy affect patients in a very similar way. The essential features of any anesthetic are that it shall produce simultaneously a sudden dehydration of some of the particles and a sudden hydration and precipitation of the rest, in exactly the proportion to cause unconsciousness. Pregnancy produces the same effect, with the difference that the anesthesia may do in seconds what pregnancy does in months. If the proportion is wrong, the same symptoms occur both in anesthesia and pregnancy. Excessive dehydration due to an anesthetic causes vomiting, that due to pregnancy causes hyperemesis gravidarum. In anesthesia and pregnancy alike, the processes of dehydration and dispersion may continue to the stage of gelatinization, and cause some form of venous thrombosis, such as pulmonary embolism. Excessive sudden hydration, on the other hand, produces the familiar condition known as shock. The value of glucose before, during and following surgery, lies in its power of dehydrating rapidly those protein particles which have hydrated by the shock of the anesthetic and the surgical assault.

The processes can be watched under the ultra-microscope. When glucose is run into a field containing a number of slow-moving hydrated water-logged particles, some of which are agglutinated, the effect is almost miraculous; the agglutination breaks up, and the bulky spheres are shattered in a few seconds into multitudes of tiny globules. The same changes no doubt take place in the body, and the clinical effect is to pull a badly shocked patient together in a few minutes. The temperature rises, color returns, sweating ceases, and the patient settles down with a normal respiration. Transfusion of normal blood produces the same effect, and for the same reason; it dehydrates the particles which the operation and the anesthetic have hydrated in excessive numbers.

It is obvious that in treating shock (acute) the first consideration is to give enough glucose at once, and for this reason steps have to be taken to guard against an overdose. If exactly the right amount were given it would all be absorbed by the time hydrated particles were returned to normal, but in practice it is impossible to gauge the correct dose. Glucose therefore is given intravenously in large doses, and particles are dehydrated or dispersed, and the symptoms of shock pass off. But the protein particles, though they are brought back to normal, will not remain so; because they are not normal, they are unstable. They have lost their electrons, their farthest planets, or else they would never have become hydrated. They most likely proceed past the normal stage into dehydration and dispersion; they are broken up into their component planets and greatly increased in number and if this process is not checked, gelatinization, and thrombosis occur.

There are two ways of checking the dehydration action of glucose, so as to avoid thrombosis. One is to give fifteen to twenty units of insulin, a very powerful hydrator, about two hours following the dose of glucose; usually in this space of time the glucose has exerted its maxium effect. This prevents too many particles being sent into true solution by the glucose. The other method is to give a "conductor," or a substance which will supply the particles with the electrons they need and stabilize them. Conductors are of no value when dehydration has progressed far, but are valuable in the initial stages when only electrons are lost, and also when particles are passing through the normal phase on their way from one abnormal phase to the other. One of the most effective conductors is the symmetrical urea of para-benzoyl-para-amino-benzoyl-1 amino-8- naphthol; 3:6 sodium sulphonate, like insulin, should be injected at the first sign of recovery.

A rough and ready test for determining whether the vomiting is caused or due to splanchnic shock, caused by the precipitation of hydrated protein particles in the abdominal viscera, or to dehydration of protein particles, is to draw off some blood in a syringe. If the blood flows readily and is bright red the protein particles are probably hydrated, but if the blood flows with difficulty, clots rapidly, and is dark in color the particles are probably dehydrated. It is most important to determine which condition is present, as the wrong treatment will only accentuate the disorder it is desired to remedy.

Surgeons, have recognized the value of glucose without, for the most part, understanding its action. The general tendency is to focus attention on ketosis, which is

one of the by-products of shock, and to counteract it by giving glucose in the belief that it replaces the large quantities of sugar consumed in the state of shock or under anesthesia.

In giving glucose, a ten percent solution, at 100-F., if given slowly when used preoperative, will be stored up in the liver in the form of glycogen, and will be let loose in the blood stream in the form of glucose when, or as required. This is good practice, to prevent shock from surgical trauma or anesthesia; if it should be given too fast the kidneys will excrete it very rapidly, and the effort will be wasted.

We find it advisable to give glucose before a severe operation; where the liver efficiency is suspected, for example, where there is a history of jaundice, or where the metabolic rate is high; for example in Grave's disease and especially when the patient is undernourished.

Always give glucose after a severe operation when a blood transfusion is impractical or impossible. Give glucose after any long anesthetic, or where there has been heavy loss of blood.When the patient shows signs of shock, cerebral, pulmonary, or splanchnic. Where glucose has not been given before the anesthetic. Especially where a rough surgeon has operated, or where it has been necessary to use more than the ordinary amount of anesthetic. Where there is a history of epilepsy.

A case of streptococcic sore throat recently came under our care in connection with other doctors. This woman had been sick about a month. The test as outlined revealed dehydration, the blood stream gelatinous, and dark, her skin looked like parchment, her condition seemed one of collapse and imminent death; we gave her twenty c.c. of a fifty percent solution of glucose in 700 c.c. of normal salt solution, which was repeated each day for three days. Following the first infusion, she became comfortable and following the second treatment color returned to her lips, and skin, and she made a reasonably rapid recovery.

Another case recently treated was a man who had a severe gastric hemhorrhage, having lost a considerable quantity of blood. This man's test revealed that he was hydrated, and he reacted quite quickly to the glucose, in fact so quickly that we were compelled to use the buffer within a short period following the glucose, wherein the case of dehydration did not require a buffer. We are not as yet able to say as to the question of individual susceptibility in the administration of glucose; but we have found that its actions should be carefully watched, and the neutralization not neglected, upon the first manifestations.

THE ACUTE SURGICAL ABDOMEN

ROY FISHER, M.D.
Frederick Clinic Hospital
FREDERICK

A great many papers have been written on this subject in recent years. This, however, only emphasizes its importance and too much can not be said about "Acute Surgical Abdomens", the most common condition confronted in surgical practice.

These patients demand early relief if life is to be preserved and because of the vast variety of surgical conditions that may be present in the abdomen it is not always possible to make a correct preoperative diagnosis.

By following a certain routine in these cases diagnosis is not always as difficult as it might at first seem.

The history as complete as possible is the first thing to obtain, remembering of course, that under certain circumstances it may not be reliable.

In children the history must be given by parents or relatives and is at times misleading. In children one must think of the most common conditions such as appendicitis and its complications, pyloric stenosis, strangulated hernia, Hirschsprung's disease, intussusception, volvulus and always the possibility of a pneumonia.

In young adults tuberculosis of the genito-urinary tract, the intestinal tract and peritoneum must always be kept in mind.

In women during the child bearing period of life the complications of pregnancy, abortion and venereal diseases must not be overlooked.

In later life gastric and duodenal ulcers, especially in cases with a history of stomach trouble, kidney and gall-bladder disease, tumors of the adnexa, intestinal obstruction and pancreatic disease may all give symptoms referable to the abdomen and one must never forget the gastric crisis of syphilis and the abdominal pain that occurs in agina pectoris.

After obtaining as much history as pos-

sible one must consider carefully the most common primary causes which I outline as follows:

1. *Acute peritonitis (circumscribed or general)*:

a. From a perforation of any of the organs from disease, (ulcers of the stomach, duodenum, or intestine or typhoid, tuberculous or luetic ulcers) or from injury.
b. Rupture of an abcess, (appendix, pyosalpinx, liver or kidney).
c. Acute pancreatitis.

2. *Hemorrhage into the abdominal cavity which may be due to*:

a. Perforation of a viscus from injury or disease.
b. Ruptured ectopic pregnancy.
c. Ruptured hemorrhagic cyst of the pancreas.
d. Rupture of an aneurism.
e. Rupture of the uterus during labor.

3. *Intestinal obstruction which may be due to*:

a. Adhesions from former operations or inflammatory processes.
b. Strangulated hernia.
c. Strictures from disease, (tuberculosis, syphilis and malignancy).
d. Plugging of the lumen by fecal impactions or foreign bodies.
e. Pressure of a growth outside the intestinal tract constricting its lumen.

4. *Embolism of the mesenteric artery.*
5. *Torsion and inflammation of organs*:

a. Acute appendicitis.
b. Acute cholecystitis.
c. Acute pancreatitis.
d. Acute intussausception, (twisted renal, splenic or ovarian cyst pedicle).
e. Strangulated omental hernia.

6. *Colic*:

a. Renal.
b. Biliary.
c. Acute gastritis.
d. Lead poisoning.

After the history has been taken and the most common causes considered a thorough physical examination should be done, observing closely all signs and symptoms. The signs to look for in the order of their importance are:

1. *The general attitude and facial expression of the patient*:

This is of great importance and must not be overlooked and often times with a good history will make the diagnosis alone.

2. *Rigidity of the abdominal muscles.*

This occurs, as we know, in all acute inflammatory conditions of the abdominal organs. It may be localized or general. It varies in degree and intensity, being as a rule greater above than below the umbilical region. It is "boardlike" in perforations and very moderate in internal hemorrhage. A generalized rigidity together with gaseous distension of the abdomen accompanied by high temperature and leucocytosis is almost positive of general peritonitis. In intestinal obstruction the rigidity is not so marked and violent peristalsis is often times observed in contrast to the "silent abdomen" of general peritonitis.

Often times in a pneumonia abdominal rigidity is present but close observation reveals it greater on the affected side and with the chest signs and symptoms should not be misleading.

3. *Abdominal distension.*

This is fairly constant and may be general or localized the same as abdominal rigidity. It is due to gas or fluid and should be easily differentiated. In a general peritonitis distension is variable depending upon how early the case is seen and as a rule is not reduced even though flatus may be passed.

In intestinal obstruction the lower the obstruction the greater the distension is a fairly constant rule.

In acute pancreatitis the distension is high and accompanied by that marked excruciating pain and profound asthenia.

Distension from fluid is rarely encountered in acute surgical abdomens. It is occasionally found in traumatic cases suffering from a ruptured liver, urinary bladder or intestine. It is occasionally met with in the sudden rupture of a large ovarian cyst or the rupture of a large abcess, (kidney, liver or appendiceal.)

4. *Temperature, pulse and blood examination.*

Temperature varies greatly. In shock we know that it is subnormal accompanied by a weak pulse, low systolic pressure and usually a normal blood count.

In internal hemorrhage temperature is normal and repeated blood examinations

showing a constant decrease in red blood cells and hemoglobin together with a fast, weak pulse are positive.

In general peritonitis there is a moderate increase in temperature. The pulse is weak and increases rapidly in rate until the end. Leucocytosis may be high or low.

In intestinal obstruction temperature as a rule is not high. The pulse is rapid with a volume about normal and blood examination is usually normal.

In localized abcesses the temperature has the characteristic evening rise, the pulse following the temperature curve. There is a secondary anemia and a leucocytosis.

The symptoms in the order of their importance are:

1. *Pain, (its kind and character)*

Pain in acute pancreatitis and in embolism of the mesentric artery is so excruciating that it is not often mistaken. This pain may be so severe that the patient is not relieved by opiates.

The pain in general peritonitis is continuous and is exaggerated by the slightest movement.

The pain of intestinal colic is paroxysmal.

In lead colic it is severe but usually the discoloration of the gums and history of occupation are helpful in differentiation.

In biliary colic the pain is characteristic in its sudden onset and its radiation through the back and into the shoulder.

In renal colic it is severe but usually referred downward along the course of the ureter.

The pain of intestinal obstruction is always severe and continuous. With pain from gastric or duodenal ulcer we usually get the history of relief from soda, disapperance and recurrence, and as a rule ulcers are not hard to diagnose. As before stated one must ever be on guard for the gastric pain in lues, the pain in pneumonia and the pain in angina pectoris, but each is easily differentiated if kept in mind.

2. *Nausea and Vomiting.*

The diagnostic importance of nausea and vomiting is variable. We know that food often vomited two hours after being taken, highly acid in character, accompanied by severe pain in the epigastrium favors gastric ulcer. The same symptoms with a longer interval between ingestion and vomiting usually mean duodenal ulcer.

In general peritonitis the vomiting is seldom faecaloid but of a brownish color and feculent odor.

Projectile vomiting in a baby is usually a symptom of pyloric stenosis.

In intestinal obstruction, if high, the vomiting is violent but does not contain fecal matter. When the obstruction is low the vomiting is less severe but may become fecal in character. Vomiting in appendicitis, gall bladder and renal colic is not a constant finding and therefore is not of great importance.

3. *Acute Constipation.*

This condition is found almost constantly in acute abdominal disease. The only exception being in certain cases of intussusception.

By following this outline it is usually possible to make an intelligent working diagnosis. After this has been done the question arises whether or not there is urgency for surgical treatment.

I think it is good judgment to place children and elderly people in a class by themselves. Acute abdominal disorders as a rule are always urgent at the two extremes of life, and there must be very little delay in these cases. I think one should never wait longer than a few hours. The patient must be placed where immediate operation can be done if necessary. In the few cases where even a working diagnosis has not been thoroughly established and the patient's condition is unimproved, exploration is indicated in the hope that the condition will be found and treatment then instituted. We know that early exploratory operation often saves life, when in all probability delay would prove fatal.

ACUTE SURGICAL ABDOMEN

V. C. TISDAL, M.D.
ELK CITY

In presenting this paper on surgical diagnosis of the abdomen I wish to make my deductions and differentiations from gall-bladder diseases.

The differential diagnosis of gall-bladder disease from other affections in the upper abdomen is at all times an extremely difficult and absorbing problem, both for the surgeon and the internist. It is plainly

obvious that a colic in the right hypochondriac region followed by jaundice, points to some disturbance in the bile passageways, but when these symptoms simulate the pain of a duodenal or gastric ulcer, a high appendix, or even a stone in the kidney, or acute pancreatitis, rendering of an exact diagnosis becomes increasingly difficult. To associate disease of the gallbladder or bile passage-ways, always with stout individuals past forty, usually good livers, is a fallacy which must not be adhered to very closely, as illustrated by a patient recently operated upon—a woman weighing about two hundred pounds—had symptoms resembling attacks of gall-stone colic which had persisted for six years.

The pain was severe, compelling hypodermics of morphine. At operation we found a pyloroduodenal ulcer of the hard, chronic indurated type, the so-called cured ulcer of the internist.

At this point I wish to report two case histories in detail:

CASE HISTORY NUMBER 7054

A. R. G., Elk City, Oklahoma. White, male, age. 33, weight 145. Occupation, manager of Planters Gin Co. Entered the Tisdal hospital at Elk City, Oklahoma, on January 18, 1930, at 1:00 a.m. on a stretcher.

Complaint on admission was pain in lower right quadrant abdomen and sore throat.

Present Illiness: Subjective history shows that on the morning of January 17, 1930, the patient got up with a sore throat. He came to my office complaining of sore throat and a chilly sensation and general malaise and aching all over. At 8:00 p.m., January 17th, 1930, the patient had very severe pain and cramping in the abdomen, first felt in the upper gastric region. Began vomiting; the pain and vomiting continued persistently until 12:30 p.m., when I was called to his home. At this time the pain was down in the right lower quadrant of abdomen and so severe that the patient was unable to lie on the bed and many times during my visit was on the floor trying to get some relief from the pain.

Past History: Ordinary diseases of childhood; influenza in 1918 while in the U.S. Navy service. He had a hemorrhoidectomy operation while in the U.S. Navy; no accidents and no other disease of any sequences.

Family History: Father died at age of 72 years, cause not known. Mother living and well. One sister 46 years of age, living and well. A twin sister 33 years of age, well. Two brothers, one of them well, one of them suffering from articular rheumatism. Wife 27 years of age and in good health, two children 2 and 7 years respectively, both in good health.

Physical Examination: Facial expression that of shock and suffering very severe pain; nose negative; eyes normal; mouth, two teeth missing and some fillings in 3 or 4 other teeth; throat, highly red and inflamed, with small white patches over tonsils and pillars, showing an acute infected throat; lungs were normal as to rales; examination by palpation, percussion and ausculation; heart sounds normal; blood pressure 126/84; abdominal region—the whole abdominal wall was somewhat rigid, right rectus being tense. The most comfortable position assumed by patient was lying on his back with knees flexed. The patient's greatest tenderness was over McBurney's point. Temperature on admittance to the hospital was 101. Pulse. 130. He vomited twice while the physical examination was being made.

Laboratory Findings: Urine, catheterized specimen, 100 c.c. Color dark red; appearance turbid; reaction acid; specific gravity 1015; albumen, slight trace; glucose negative; acetone negative; diacetic acid postive; indican negative; R.B.C. negative; W.B.C. none; casts none; organisms none; cells none. This report was made at 2:00 a.m. January 18th, 1930. Blood count, erythrocytes 4,800,000; leucocytes 16,800, on date of January 18th, 1930. There was no other laboratory work done.

Pre-operative Diagnosis: Acute streptococcus sore throat complicated by (1) acute appendicitis; (2) Possible right ureteral stone. Indications for operation: (1) Pain. (2) Rigidity of the right rectus muscle. (3) Pain being over McBurney's point. (4) Vomiting, but the vomiting was more than usual in the ordinary case of appendicitis. (5) Elevation of pulse and temperature. Part of which might be accounted for by the acute tonsillitis. (6) The infection from his throat spreading to the appendix.

Description of Operative Technique and Operating findings: The patient was prepared in our routine way. First, catheterized; second, the abdomen was shaved

and painted with 3% iodine, covered with a sterile towel. At this time the patient received his first hypodermic since present illness began. One-fourth grain of morphine was given and he was carried to the operating room on a stretcher and given ethyline and oxygen anesthetic. The abdomen was painted with iodine and allowed to dry, then the iodine was removed with alcohol; the surplus alcohol was removed with a dry sponge and the patient was then draped in the ordinary way and an incision was made over McBurney's point two inches long down to the muscles. Then a separation of the muscles was done and the peritoneum opened. The appendix was delivered very easily, being highly inflamed and a very large fecalith was found obstructing the lumen of the appendix. There was no free pus, therefore the meso-appendix was ligated with Pagenstecher linen, the purse-string suture being carried around the cecum at the base of the appendix; the base of the appendix was clamped and tied off with a No. 2 plain catgut, reclamped and amputated. The stump being cauterized with phenol and neutralized with alcohol. The abdomen was closed by layers. The peritoneum was closed with No. 2 plain catgut. Aponeurosis was closed with No. 2 catgut. Skin and aponeurosis was closed with silkworm gut interrupted figure of eight. Skin approximation with skin clips. The anesthetic started at 3:40 a.m. and ended at 3:55 a.m. The operating staff was as follows: Surgeon, Dr. V. C. Tisdal; assistant, Dr. L. V. Baker; assistant, Edith Crites, R.N., Instrument Nurse, Dora Hart, Student Nurse; Circulating Nurse, Marie Delp, R.N.

Gross examination of tissue showed highly inflamed appendix three inches in length containing a fecalith. No microscopical examination was made of tissue removed.

Final Diagnosis: Acute streptococcus sore throat complicated by acute appendicitis.

Progress noted during stay in hospital: Three hours after operation the patient went into shock, pulse became very weak and radial pulse could hardly be felt. The pupils relaxed. Patient became cynotic, the skin cold and clammy; he was immediately given ¼ grain of morphine, 1/40th grain of strychnin and 1/150th of atropine and hypodermoclysis of normal saline solution. 800 c.c. were given under the breast. Glucose sodium bicarbonate were started by proctoclysis. These stimulants were given at 6:30 and at 7:30 he received caffeine sodium-benzoate. For twelve hours he had a very stormy time and it was necessary to repeat all the stimulants two or three times during the day. By midnight some twenty-one hours following the operation he rallied, cynosis clearing up, pulse returned to a fair volume, respiration and general condition was fairly satisfactory. Pulse came down to 104 and temperature to 103, but still suffering some pain in the abdomen. He had hot water bottles and the D.T. light over his bed almost continuously and for twelve hours it was necessary to bandage his legs and arms and elevate the foot of the bed two and one-half feet. At twelve o'clock noon he voided 4 ounces of urine and the specimen was sent to the laboratory. Laboratory findings showed slight trace of albumen, specific gravity 1018; diacetic acid positive; microscopic examination revealed no abnormality. Patient perspired very freely for twenty-four hours following the operation. He received numerous doses of digitalis, caffeine citrate, hypodermoclysis and strychnin and the whole category of stimulants. The throat at the end of forty-eight hours had begun to clear up. His pulse ranging from 116 to 140, temperature 103 to 100.8, respiration from 17 to 28. The patient stated that he felt better at the end of forty-eight hours and received the general a.m. cares. During the next succeeding forty-eight hours he continued to receive digitalis 1 c.c. ampule every four to six hours with ⅛th of morphine with orders to turn the patient every three hours; however, the pulse average was around 120 with temperature on the decline. He was voiding during this time on an average of about 30 ounces of urine and received about 800 c.c. of saline hypodermoclysis. There was very little change in condition of patient up to the beginning of the sixth day when he began to develop a jaundice, first manifested in the sclera and then noticeable in the skin. The urine showed bile with a large number of blood cells and an increased amount of albumen. At noon on the sixth day the patient had a very severe chill and voided only 14 ounces during the twenty-four hours of the sixth day. His condition grew markedly worse, the abdomen was distended and hiccoughs began, lasting from thirty minutes to two hours. At this time he was given 50 c.c. of a 50% solution of glucose from which he received a rather marked reaction, having a chill and temperature

rising to 106. The next twenty-four hours he voided 24 c.c. of urine following an administration of 500 c.c. of blood administered by indirect method and sodium citrate. His jaundice became worse, the gas pains more pronounced as was the abdominal distension. This patient being my brother-in-law, I asked for more consultation. Up to this time I had only had my own staff in council. Dr. McClain Rogers of Clinton, Oklahoma, was called, along with three other outside men, Dr. DeWitt Stone of Payne, and Drs. J. E. and Oren Standifer of Elk City. The hiccoughs continued to be more severe and of longer duration. The general condition of patient grew progressively worse and he had three 100 c.c of blood in the muscle and at the suggestion of the consultants received 300 more c.c of blood in the veins thirty-two hours after the first transfusion. On the morning of the eighth day we received 10 ounces of urine while we gave him 4,000 c.c of fluid by hypodermoclysis and intravenously. At 10:00 a.m. on the ninth day he had a very severe hemorrhage from the abdominal wall (one day after the sutures were removed). The hemorrhage was stopped by ligating a vessel in the abdominal wall. At 8:00 o'clock on the evening of the ninth day he bursted the whole incision after a tube was placed in the ileum about four feet from the ileocecal valve.

All stimulants above named were continued through the entire course of treatment and there were only four ounces of urine recovered from 3:00 a.m. morning of the ninth day until 3:00 a.m. the morning of the tenth day when the patient died.

CASE HISTORY NUMBER 7144

V.E.H., Elk City, Oklahoma. White, male, age 27. Occupation, proprietor of furniture store. Admitted to the Tisdal hospital, Elk City, Oklahoma, on March 18, 1930, at 8:30 p.m. Entered on a stretcher. Operated 3-19-1930.

Complaint on admission: Pain over the whole abdomen, sore throat, vomiting and fever.

Present Illness: Subjective history shows that on March 14, 1930, patient developed a sore throat which his attending physician diagnosed as follicular tonsillitis and pharyngitis. With this he had temperature of 102 to 103, a general malaise, and pain over the whole body. This continued over the 14th and 15th and on the 16th the patient felt better and was out for a car ride for three hours. On the seventeenth he went to his store but felt badly and in the evening attended a Chamber of Commerce meeting. Went home at 11:00 p.m. and retired feeling fairly well but still some soreness in his throat although suffering very little pain. At 4:00 a.m. he was awakened with very severe pain in the abdomen. He drank hot water which he immediately vomited up. His wife gave him an enema with no results and at 7:00 a.m. called his family physician. His pain was so great and his abdomen so very tender that his physician gave him a hypodermic of ¼ grain of morphine so that he could be kept quiet long enough to make a physical examination, but he did not receive any relief from the hypodermic. At 9:00 o'clock the morning of March 18th, his physician gave him a No. 1 H.M.C. At the end of one and one-half hours he fell asleep for thirty minutes, awakening at 11:00 a.m. with pain more severe in the lower left quadrant of the abdomen and vomiting. He did not vomit any blood and at this time was given an S.S. enema from which a small bowel movement was obtained, but did not relieve the pain and at 1:00 p.m. he was given another hypodermic of morphine. The pain continued the rest of the evening and at 7:00 p.m. I was called for consultation. Being out of town a distance of 35 miles and unable to return at once another consultant was called and the patient was brought to the Tisdal Hospital at 8:00 p. m. At 10:30 p.m. I returned and found the patient suffering severe pain, a board-like abdomen and too tender over the whole of abdomen to gain much by physical examination.

Past History: Ordinary diseases of childhood, had tonsillitis up to the age of 15 years when I removed his tonsils, following which he had a mild pneumonia. No accidents, no deformities. For past two years had not been able to eat food with spice in it without discomfort to stomach,

Family History: Father and mother living and well. One sister living and well. Three brothers living and well.

Physical Examination: Revealed a young man 27 years old, dark hair and eyes, well nourished, 5 feet 11 inches in height, weight 160 pounds, temperature 102, pulse 100, respiration 36, eyes, conjunctiva red and vessels engorged. Facial expression that of a man suffering pain, pinched and drawn, mouth and tongue dry, mucous membrane dry. No rales were

heard on ausculation of lungs, palpation and percussion did not reveal any abnormality, contour of the chest was normal, heart sound apex beats were normal in every way. Blood pressure was 118/84. Kidney, liver and spleen could not be palpated due to the pain that was caused in the examination. The whole abdominal wall was board-like, but no abdominal examination of any consequence could be made due to the extreme tenderness. There was no distention of the abdominal wall due to the rigidity of the irritation in the inside.

Clinical Laboratory: Blood count revealed 5,050,000 erythrocytes, leucocytes 14,600, polymorphioryia leucocytes 72, lymphocytes 18. Urinalysis, catheterized specimen 70 c.c., color dark straw appearance, apparently bloody acid reaction, specific gravity 1030, albumen none, sugar none, acetone none, diacetic acid none, indican none, R.B.C. positive, large number, W.B.C. positive, casts negative, organisms positive, streptococcus and staphylococcus colon bacillus. There was succeeding laboratory work done. Urine examination and blood counts made. Leucocytes increased from 14,600 to 16,200 in 8 hours and in six hours more to 18,100 with 8% increase in polymorphioryia leucocytes.

Pre-operative Diagnosis: I saw the case first at 10:30 p.m. March 18th, 1930. The patient was in severe shock and I could not make a definite diagnosis but suspected a ruptured viscus. I was in consultation with his attending physician, Dr. E S. Kilpatrick, Dr. L. V. Baker of Elk City, Oklahoma, and Dr. McClain Rogers of Clinton, Oklahoma, and Dr. J. E. Standifer of Elk City, Oklahoma. I asked to get Dr. McClain Rogers of Clinton, to see the case but upon Dr. Rogers' arrival the condition of the patient was such that he was unable to make an examination. At 1:30 on the morning of March 19th, 1930, we decided to give the patient more glucose and hypodermoclysis of saline solution and see him at 7:30 a.m. with the view of exploratory incision. No diagnosis being made.

Description of Operative Technique and Operative Findings: The patient's abdomen was shaved and prepared by being painted with 3% iodine. He was given 3/8 grain of morphine catheterized and sent to the operating room at 8:45 a.m. He was given an ethyline nitroxide and ether anesthetic, his abdomen was repainted with iodine, cleaned off with alcohol, draped, and right rectus incision nine inches long was made. In passing through the peritoneum a large amount of seropurulent fluid flowed out through the incision, greyish color, and simulated gastric contents and with such a large pool coming from the right and left kidney regions that the stomach was immediately attacked. There was an agglutination of the stomach and ominum, also the bowels. The lumen of bowels were markedly distended, very red and highly inflamed. There was no gas coming from any part of the stomach examined and both myself and Dr. Rogers examined the stomach very carefully but were unable to identify any ulcer in the stomach. The gall-bladder was considerably distended, discolored (yellow) showing previous infection. The appendix was removed, three cigarette and one hardened rubber drain were placed in the pelvis, one hard rubber drain was placed through a puncture wound to each kidney region. The peritoneum was closed with No. 2 chromic catgut, interrupted No. 2 plain suture in the muscle, No. 2 chromic closing the aponeurosis, the skin closed with figure of eight silkworm gut suture.

Gross examination of tissue: Appendix showed to be red and inflamed upon inspection, the lumen of the appendix was empty.

Final Diagnosis: Perforating ulcer of the cardiac end of the stomach posterior surface about 1½ inches from the cardiac end, revealed on post mortem.

Progress noted during stay in hospital: After the patient returned from the operating room hyodermoclysis of normal saline solution was immediately started, camphor and oil 1 c.c. was given, following in one hour with 1/40th of strychnin, 1/100 of atropine and ¼ grain of morphine. At 5:00 p.m. his temperature was 106, pulse 160 and respiration 28. At 12:30 a.m. his temperature was 107 and the pulse could not be counted. At 2:30 a.m. his temperature reached 107.4 and the patient died at 2:45 a.m., March 20th, 1930.

Operating Staff: Surgeons, Dr. V. C. Tisdal and Dr. McClain Rogers; assistant, Edith Crites, R.N.; Instrument Nurse, Dora Hart, Student Nurse; Sponge Nurse, Iva Cochran, R.N.

Anesthetic started at 8:45 a.m. stopped at 10:12 a.m. Operating began at 8:54 closed at 10:12 a.m.

I wish to impress the fact that the rigidity of perforating ulcer of the stomach or upper bowels, is alone in its muscular rigidity, being board-like and coming on immediately following the perforation. This condition is caused as we all know by the acid chemicals of the stomach or first part of the small intestines and the only thing that simulates so very closely is acute pancreatitis. Abdominal pain which cannot be controlled by morphine suggests a very serious condition which almost without exception requires operative interference.

Cholelithiasis may be found in lean individuals, which in fact at times adds more difficulties in differentiating between gall-bladder disease and pyloric ulcers, because in these patients one would expect to find a lesion of the stomach or duodenum. Again a high appendix and gall-bladder disease are often taken one for the other. It is at times impossible to differentiate between the two affections until the patient has been anesthetized or exploratory incision made and then many times the affection is so great or condition such that exploration does not reveal the condition without a great deal of trauma as illustrated in one of the case histories read.

In renal colic there are certain urinary reflex pains, however, the physical examination must assist materially in the diagnosis. In gall-bladder disease tenderness is found under and just below the costal border; in renal colic the point of greatest tenderness is in the loin space, while many cases arise where it is absolutely impossible to make a differential diagnosis between a high appendix and gall-bladder disease.

In conclusion I shall feel that this paper has rendered its purpose if it will wake us up to the important fact of our responsibilities of recognizing the acute surgical abdomen.

"GOITER"

FOWLER BORDER, M.D.
The Border-McGregor Hospital and Clinic
MANGUM

Divers classifications of goiter have been perennially appearing in the Journals and text books for the past twenty-five years. These classifications are based mostly upon the individual surgeon's viewpoint of goiter and not especially upon any concrete facts that can be applied by the average physician to any one type of goiter. In fact there has been such an avalanche of classifications based solely upon the eccentricity and whims of the individual author that the whole subject has become so confusing that it is absolutely essential that we, as clinicians, come down off our high horse, so to speak, and at least from the clinical viewpoint, classify goiters on a rational and sane basis, such that even the general practitioner who sees only an occasional case may intelligently apply the classification and feel that in doing so, that his conception upon which the classification is based is founded upon basic facts that are accepted by all intelligent physicians.

Then with the above ideas set forth, it behooves us to discuss goiter in a rational way, forgetting for a time our own little pet ideas and *cute* (pardon the term) special classifications.

In the first place, goiter as ordinarily used is a misnomer, because goiter literally means a tumor or enlargement of the thyroid gland. As everyone should know the actual enlargement of the gland plays only a nominal part in thyroid disease. Some of the most toxic glands show no enlargement whatever. This latter fact alone accounts for some of the misunderstanding arising when we attempt to standardize classifications. Also the prevailing idea among the less experienced that a tumor (goiter) of the gland must be present if disease exists, has been responsible for thousands of toxic cases going undetected, until the symptoms had become severe. This being obvious then let's speak of *thyroid disease* and *not* goiter, when discussing either physiological or histological abnormality of this little human dynamo.

Now, if we can think of *thyroid disease* in an abstract sense, and not vision *goiter*,

we can easily and readily arrive at a sane and rational classification. From a clinical standpoint then, our first approach to the mooted subject would be thyroid disease classified as follows:

not by any means necessary in thyroid disease, We see many cases of diseased thyroid not diagnosed by the family physicians because no enlargement of the thyroid was present.

- Thyroid Disease
  - 1. With goiter (enlargement)
    - a. Toxic
    - b. Non-toxic
      - a. Colloid
      - b. Adenomatous
      - } 1
  - 2. Without goiter (enlargement)
    - A. Hyperthyroidism (toxic)
    - B. Hypothyroidism

1. NOTE: Further differential diagnosis based upon histological variations should be of interest only to the pathologist.

The above is the simplest, most common sense classification from the clinical standpoint that can possibly be evolved, and one that we believe any intelligent practitioner can understand and readily apply to any thyroid case coming under his observation. Then, when he has properly classified his patient under the above system he can safely and intelligently advise his patient as to the proper treatment, or else refer him to a colleague who is better equipped to treat any one given type. All goiter (enlarged) types of thyroid disease are potentially surgical, but the time of operating and the preliminary treatment to such a step, depends entirely of course, upon whether the goiter (enlarged) type gland, is toxic or non-toxic.

The second type of thyroid disease cases, i. e. thyroid disease without goiter (enlargement) is either specifically surgical (hyperthyroidism) or specifically medical (hypothyroidism). This then, is the sum total of all we may need to know for the purpose of scientifically classifying and treating thyroid disease.

In expounding the above somewhat evolutionary idea of classification of type and treatment, we have been induced to do so, by the phenomenal increase in the past ten years of thyroid disease in this section of the country.

Twenty-five years ago, when we did our first goiter operations in this hospital, thyroid disease was comparatively rare in the Southwest Oklahoma counties and the Panhandle of Texas, but today it is becoming one of our more frequent major operations. One thing we would like to impress on the practitioner is the fact that the presence of goiter (enlargement) is

We have also noticed an apparent increase in hypothyroidism cases. Just why this should be so, we do not know, but we have observed enough thyroid disease cases of all the above mentioned types to stimulate us in helping to devise a system of classification and treatment that can be used to the benefit of the patient by the general practitioner.

LOCAL ANESTHESIA IN A COUNTRY HOSPITAL BY A COUNTRY SURGEON

C. CURTIS ALLEN
FREDERICK

Perhaps most of the problems of anesthesia in the country hospital are reduced to a choice between chloroform and ether. This is as it should be, for they are more universally understood than any others. However, the newer anesthetics and combinations of anesthetics, both local and general, are rapidly enlarging their fields of usefulness; and it is my belief that as we come to use them oftener and to understand them better, we shall thereby contribute largely to the comfort of our patients and to the safety of our surgical procedures.

The number of drugs employed for local anesthesia is ever increasing. The usefulness of many of them has been satisfactorily demonstrated; yet, aside from novocain, their merits are such as appeal almost exclusively to the specialists. However, if one is using local anesthesia he should become familiar with the use of more than one drug. This allows a certain versatility. But for the major part of his

work, I believe he should choose his anesthetic as he does his wife—after falling in love with it—and that a reasonable period of courtship should follow; then, having learned its disposition, he will be better able to make the most of its merits and to avoid its disadvantages.

Novocain has been selected by the masters as the best to date for general use, and its limitations have been defined by them. There are a few others, however, that we find useful in our country hospital. Among these are butyn, quinine and urea hydrochloride and anesthesin or aposthesin. We have butyn made up in sterile .5% solution by the operating room nurse and placed on our office desks in 30 cc rubber stoppered containers. This we find convenient for all emergency minor work. For tonsillectomies we use it routinely because it is effective almost instantly, and in such small amounts that never more than 10 to 15 cubic centimeters need be used for the entire operation. For hemorrhoids alone, we are partial to the 1% quinine and urea HC1 by infiltration because the anesthesia often outlasts the period of postoperative pain. The induction of anesthesia in this area is not always painless. It may be made so by first injecting 20 cc of 1% novocain with two MM 1-1000 adrenalin HC1 into the sacral canal. This is double anesthesia, but it serves a double purpose, and it is just as logical as the morphine and atropine that are routinely given hypodermically before all operations. But pain will sometimes follow hemorrhoid operations in spite of all precautions; so in addition to the opiates, we find that anesthesin, locally applied, is very helpful. We find it useful, also, in painful abrasions, burns and many other superficial lesions.

In the larger hospitals the necessity for quick and reliable anesthesia is imperative, yet this necessity does not operate to limit the use of local, regional, and combination anesthesia when any margin of safety to the patient can be gained thereby. In such places a trained anesthetist is indispensible and a larger personnel is always available. In the country hospital, on the other hand, where the operating room personnel consists of the surgeon, an assistant, and the operating room nurse, the necessity for speed is not applicable, for there is not likely to be more than the one major operation that day, and a little more time may very properly be taken to induce a safer anesthesia. The available anesthetist may be well trained. Usually he is not; for it often happens that the patient chooses his family physician to "administer the chloroform," and the chances are that the good physician is much more adept in other ways. So I have come to believe that the country surgeon may very profitably train himself to use a larger number of local and regional procedures. Certainly the time consumed is appreciably increased, but the comfort to the patient is inestimable, and the safety to him is usually increased by just so much as a general anesthetic may be dispensed with. This is especially true since the profession has been presented with the working tools of basic anesthesia and taught their uses.

Many patients dread a general anesthetic far more than they do a major operation. Therein lies an important business consideration if one is prepared to tell a patient, convincingly, his operation may be done without having to go to sleep at all. This difference to the patient, more often than not, is perfectly justifiable, and was well expressed recently by one on whom we had an opportunity to use both kinds of anesthesia within a week. "Under ether," he remarked, "I felt as if I would surely strangle to death." He very nearly did. Under spinal, a few days later, he felt no discomforts whatsoever. A similar test of both methods presented itself to us in the case of a woman on whom it became necessary to amputate both her breasts for carcinoma. Following her first operation under ether she spent three miserable days in bed because of nausea and the usual discomforts incident to general anesthesia, and she kept her bed of necessity for five days altogether. Some months later, when a small lump came in her other breast, she kept the fact a secret until the tumor had enlarged to the size of an ordinary egg, because she so much dreaded another anesthetic. When informed that it could be done without any inhalation anesthesia, she readily consented, and the operation was performed under a combination of brachial plexus block and sodium amytal intravenously. It took longer, but there was no nausea. She sat up on the second, was out of bed entirely on the third, and was allowed to go home on the fifth postoperative day. She remarked that she would not have delayed so long had she known before that inhalation anesthesia was not indispensible to major surgery. And we have had encouraging repetitions of similar experiences in just

so much as we have extended our use of regional and combined anesthesia. Especially gratifying to us has been our experience with spinal and trans-sacral block, although patients who have had cystoscopic examinations under other anesthetics, or none at all, were very grateful for caudal block alone. For cystoscopy it is an ideal anesthetic.

We have had our failures with local and regional anesthesia, but they were not more disappointing affairs than some of the operations we have had to do on strangling, straining, suffocated patients. Our failures were usually due to faulty technique; sometimes to improper or poorly constructed instruments; and sometimes because we elected to do a local anesthetic operation on a general anesthetic patient. One's judgment, like his technique, should improve with experience.

The armamentarium for local anesthesia need consist only of a good selection of needles and a few reliable glass syringes of from one to ten cubic centimeters capacity. We have found the Labat outfit entirely satisfactory, although the needles cannot be used with any other syringe. That is its only inconvenience. For spinal anesthesia we prefer a smaller gauge needle than the ones included in the set. The smaller needles, however, are best used with a short canula guide. Additional and necessary articles are a few good books on the subject. Of these, we believe, one should read Carroll Allen first, for, after reading Labat, one is apt to believe he can induce any type of anesthesia he chooses. Then read Hertzler; read him last, before you try it.

TREATMENT OF FECAL FISTULA

RAYMOND H. FOX, M.D.
ALTUS

It is the concensus of opinion that the pancreatic juice plays the important role in the resistance of the healing of duodental fistulas, most fecal fistulas of the small intestine, and many of the large intestine, when there is liquid or similar contents on account of an excess of pancreatic juice. By controlling the proteolytic action of trypsin, the very powerful enzyme contained in pancreatic juice, one has the means of stopping the extensive irritation and digestion of the abdominal wall, which is fairly eaten up if it is allowed to continue unchecked for even a short time.

The main action of pancreatic juice is the digestion of protien in an alkaline medium, which is the normal reaction of the contents of the duodenum and small intestine.

It has been shown that by supplying an excessive amount of tenth-normal H.C.L., or diluted acetic acid to the crater of the fistula, the discharge was neutralized or acidified, and the digestive action of trypsin ceased. In case there might still be an excess of pancreatic juice, regardless of the use of the acid, it is suggested that the circumference of the crater be surrounded by gauze soaked in an artificial protein in the form of sterile beef juice, to allow any overflow to digest this before it could attack living tissue of the abdominal wall.

There is an additional factor which must be combatted, and unless one realizes that, the grave toxemia that develops may overwhelm the patient. The active treatment may not cause diminution of the discharges soon enough to prevent death from this overpowering toxicosis. Walters and his co-workers have studied the toxemic incident to duodenal fistula, and have found that the increasing alkalosis, characterized by decreasing concentration of blood chlorides and progressive rise of blood urea occurs. They conclude that the toxemia results in its major part from a loss of the action of chlorides of the digestive juices, which are discharged through the fistula, and that this loss turns the tide of neutrality of the blood toward alkalinity; that the excessive discharge from the fistula increases the volume of chlorides discharged and further depletes the body chlorides and increases the alkalosis. Any toxic state is accompanied by increased blood urea, the results, in some cases, of the production of nephritis, which prevents the elimination of urea and may infrequently be due to an abnormal amount of urea from the breaking down of body tissue. Toxemia, the result of an obstruction of the biliary, the urinary or the intestinal tract, naturally elevates the blood urea. Hayden and Orr, have proved this to be the case in intestinal obstruction but it is just as evident in duodenal and fecal fistulas. Therefore, the chemical status of the blood in intestinal obstruction and duodental and high fecal fistulas is practically the same.

In duodenal and instestinal fistula, the

loss of body fluids and starvation are just as important factors as in intestinal obstruction. The treatment of toxemia, therefore, must not be confined solely to the replenishing of the depleted chlorides, but fluids and dextrose must be abundantly furnished as long as the excessive loss, toxemia and starvation continue.

It may be that the balance of production is so disturbed by the continual discharge of the pancreatic juice through the fistula that the pancreas is stimulated to an over production with consequent increased loss of body fluids and extreme depletions of blood chlorides with resulting alkalosis, toxemia and starvation.

It is an established fact that the higher the origin of the intestinal fistulas, the more difficult it is to heal, that the case in which it can be healed and the lessened severity of the toxemia is in direct proportion to its distance from the pylorus. The greater the fluid content of the discharge, the more irritating it is and the more irritated the tissues of the abdominal wall become, the reason for this seems to be the presence of an increased volume of pancreatic juice with its greater quantity of tryspin. It is noticeable how the skin irritation about a fecal fistula decreases on a constipating diet with more concentrated fecal contents. This is not so noticeable in duodenal fistulas, because nothing can be done to solidify the intestinal contents, and the discharge of the pancreatic juice is fairly constant. There is no chance of solidifying or partially solidifying the intestinal contents immediately below the pyloric sphincter.

Further observations have tended to show that bile plays a minor role of digestion of abdominal wall, although there is some digestion of fats. Further, more times have shown that postoperative small intestinal fecal fistulas are notoriously persistent and irritating and most of them do not heal spontaneously.

This method of handling fecal fistulas of the upper intestinal tract will apply to those of large intestines as well, it is my opinion that it is curative in a large majority of cases. It is also most effective in overcoming the chafing of the skin around the anus in acute and chronic diarrhea, especially of infants. Duke has shown that the chafing of skin around the rectum is due to the digestive eroding action of pancreatic juice.

The time required for cure is effected by: (1) The proximity of the fistula site to the pyloric sphincter, (2) the volume of pancreatic juice in the intestinal contents, (3) the resistance of the patient, (4) infection, (5) intra-intestinal pressure, and (6) the persistence and thoroughness of the treatment.

Intestinal fistulas are less persistent and less resistant to treatment in proportion to their distance from the duodenum because of the dilution of the pancreatic juice with other intestinal secretions, and the products of intestinal digestion lower down. Under normal conditions the fecal content is more solid, the more nearly it approaches the rectum. A diarrhea *per se* or induced by a purgative increases the volume of pancreatic juice and liquification of the fecal contents and consequently the irritation and digestion of adbominal wall.

Therefore it is wise to bring about constipation in the patient by placing him on a boiled milk diet. Boiled milk, in addition to its constipating effect, supplies intra-intestinal protein for the digestive action for the pancreatic juice and so tends to cut down the excess. From four to six ounces of boiled skimmed milk is given every four hours. The oral administration of 1-10 to 1-5 grain of powdered opium every two or three hours, tends to decrease the peristalsis and lower the intestinal pressure. If secondary anema occurs blood transfusion and iron intravenously are given. Ordinary methods to combat infection are used. The toxemia, starvation and alkalosis are overcome by intravenous administration of hypertonic salt solution and dextrose with indicated amounts of insulin when large amounts of dextrose are used.

The important factor in the treatment however, is the local application of tenth-normal H.C.L. acid and sterile beef juice, the former is used to overcome the alkalinity of the intestinal contents as pancreatic juice becomes inactivated in an acid medium, the latter supplies a foreign protein, with which the pancreatic juice first comes in contact and digest it instead of the abdominal wall.

The beef juice and H. C. L. acid treatment applies more particularly to fistulas of the duodenum and small intestines than those of the large intestines, and when patients have a tendency to have bowel movement which contains a high ratio of pancreatic juice. Fistulas of the large in-

testine in an otherwise normal bowel usually heals spontaneously, persistent fistulas in which irritation or digestion of abdominal wall from pancreatic juice is not the causative factor, will of course, have to be closed by surgery.

—o—

TETANUS, ITS FREQUENCY, PREVENTION AND TREATMENT—WITH REPORT OF CASES.

FRANK HARRISON MCGREGOR, M.D., M.C.
MANGUM

The above subject is chosen for this paper because the writer fully believes that the danger from tetanus infection of all accidental wounds is not acutely appreciated by the physicians of this state. This conclusion has been reached by keeping a detailed history of the tetanus cases coming under our observation within the past ten years, and comparing this with the infrequency of tetanus cases occurring in the army hospitals in France during the World War. The contrast is so striking that a delineation of it here is bound to prove interesting to all of those who are sincerely interested in scientific medicine, especially in scientific prevention of disease.

With the above premises laid, we will proceed to review the army and civilian method of preventing this most terrible and terrfying of diseases, one that is 99% preventable.

In the armies of all nations engaged in the late war, it was compulsory for every soldier wounded, even slightly, such as a barbed wire scratch, to receive at least 1500 units of anti-tetanus serum. Of course cases of multiple wounds received as much as three weekly injections of the above amount. In civilian practice we are too prone to pass the minor wound lightly by or else too easily condescend to the whims of the parents who no not know the importance and effectiveness of tetanus prophylaxis. Where is the physician in civilian practice who can count on the fingers of one hand, the needless and pitiful deaths that have occurred from somebody's neglect?

I do not have access to the tetanus statistics of the armies during the World War but my own experience as Chief of the Surgical Service of a large British base hospital convinces me that we, as civilian physicians, have been lax in our duty to both patient and our own conception of scientific practice. During my army experience I came in contact with thousands of badly wounded patients, mostly gunshot and shell wounds, some of whom had lain on the battlefield for hours without a dressing, and not one single case of tetanus occurred on my service. This phenomenal record, of course, was due to the fact that anti-tetanus serum was given as promptly as posible and repeated at weekly intervals up to three or more doses. Also in delayed operations on old wounds, such as compound fractures, say three to six months following the injury, routinely anti-tetanus serum was given preceding the operation.

Comparing the above war record with our experience of the last ten years in private practice the contrast is simply astounding. Within the latter period we have seen in consultation and treated here in our hospital, fifteen cases of tetanus. Of these, eleven cases treated in the hospital, six have recovered and five died; of the latter five cases, three died within twelve hours after entering the hospital, showing that the disease was far advanced when treatment was begun. In the other two, one was transferred from another hospital after having shown unrecognized symptoms of the disease for seventy-two hours. Both of these latter cases were post-operative for simple appendectomy. In neither case was the stump of the appendix ligated, but inverted directly through the purse string into the lumen of the cecum.

These two cases have convinced us that Warbasse's[1] theory of spore infection from the lumen of the large bowel and not from cat gut, is correct. At least in the surgical department of our hospital we insist that all appendiceal stumps be ligated and cauterized before inversion.

The remaining thirteen cases were all minor wounds, at least two, only grass-burr punctures. In the two grass-burr cases and one nail puncture case, no doctor saw the patient until the disease was well established. In none of the thirteen cases of traumatic wounds was anti-tetanus serum given prophylactically.

The following case reports and summary will, we believe, convey a more clear delineation of the point in view[2].

Case No. 1. A boy sixteen years, of age, who, one week before had stuck a splinter into plantar surface of his foot.

This patient did not report to a doctor and the splinter was not removed until he was brought for treatment of the "lock-jaw." The splinter was removed, the wound cleansed and cauterized with phenol and left widely open. The patient was immediately given 20000 units of anti-tetanus serum intravenously and 20,000 units intraspinally. This was repeated daily until a total of 160000 units were given. Chloral hydrate per rectum and chloroform was resorted to to control spasms. Results—complete recovery.

Case No. 2. A boy fourteen years of age had a mesquite thorn removed from his foot seven days before. No anti-tetanus serum given. When seen in consultation, the patient had been having hard convulsions for six hours. His position in bed was that or extreme opisthotonus and he was cynotic. Under chloroform anesthesia (to relax spasms) he received 40000 units anti-tetanus serum divided equally intravenously and intraspinally. Two grams chloral hydrate given per rectum. Results—death from respiratory paralysis (spastic), four hours after first treatment.

Case No. 3. A boy ten years of age, who suffered a compound fracture of radius eight days previous to being seen by writer. No anti-tetanus serum was given at the time of reduction and splinting, notwithstanding the boy was thrown from a horse to the unpaved street. The symptoms were not recognized by the family physician until the disease was well advanced, convulsions being practically continuous and death occurred from respiratory paralysis (spastic) before anti-tetanus serum could be administered.

Case No. 4. A young married woman was operated on for acute appendicitis in another hospital by a competent surgeon. She had returned to her home on the eighth day following the operation, but was at this time showing symptoms of irritability that was attributed to nervousness or hysteria. On the tenth day following the operation she was brought to our hospital showing marked symptoms of tetanus. The routine treatment was instituted but death brought relief to the patient after twelve hours. This was one of the appendiceal cases mentioned in the premise of this treatise.

Case No. 5. A three year old child who gave a history of a grass-burr wound of one week standing before symptoms developed. This patient was seen and treated by an osteopath on the first days of pronounced symptoms, but tetanus was not diagnosed or suspected. When seen by the writer on the third day of the disease, the child was having continuous convulsions and was cynotic. 20000 units was equally divided between the vein and spinal canal. Chloroform was resorted to for relief of spasms. Death followed two hours later from respiratory paralysis (spastic) and oedema of the lungs.

Case No. 6. A four year old boy who suffered a grass-burr wound ten days before symptoms developed. This case was seen in consultation after 20000 units anti-tetanus serum had been given daily for two days previous. This treatment was continued until 120000 units were given. Chloral hydrate per rectum, and magnesium sulphate intravenously was resorted to for spasm control, the child succumbing from pulmonary oedema on the sixth day of the disease.

Case No. 7. A man forty years of age who was suffering from bunions on both feet, trimmed his bunions so close with a razor blade as to cause them to bleed, then proceeded to walk barefooted in the morning dew through the park that adjoined his home. Ten days later, low grade symptoms developed. He called a physician who diagnosed the condition as neurasthenia of a cataleptic type. Later, changing the diagnosis to tetanus when the symptoms became more clear. He immediately brought the patient to the hospital where our routine treatment was instituted but the patient succumbed to the convulsions six hours later.

Case No. 8. A ten year old boy stuck a nail in his foot eleven days before. Home treatment was applied and no physician was called and of course no anti-tetanus serum given prophylactically. When brought to the hospital his teeth were locked tight and opisthotonus was severe. The wound was incised and cauterized with phenol. 5000 units anti-tetanus serum was infiltrated in the tissues around the wound, 40000 units given intravenously and intraspinally of 20000 each daily till the enormous sum of 240000 units were given. Chloral hydrate per rectum in two gram doses was given whenever necessary and the use of chloroform resorted to for spasm contral. On the eighth day following admission the patient developed double lobar pneumonia but eventually re-

covered and left the hospital well, at the end of the third week.

Case No. 9. Boy five years of age, stuck a nail in his foot seven days before admission. No doctor was called and no anti-tetanus serum given at the time of the accident. This child was immediately given 20000 units, for three doses twelve hours apart, chloroform was used as indicated for control of convulsions. The child dying during a hard convulsion thirty-six hours after admission.

Case No. 10. A young lady eighteen years of age operated on for acute appendicitis six days previous to beginning of tetanus symptoms. This was a clean case, but the stump was inverted without first being ligated and cauterized. This was one of the early cases that came under our observation and we were slow in making a proper diagnosis and the treatment was not so radical as our treatment of later cases have been. Death resulted in thirty-six hours after tentaus treatment was started.

Case No. 11. A boy, age 13, suffering from a blank cartridge wound (toy pistol) of index finger left hand. This wound had been inflicted eight days previously and although dressed by a doctor at the time, no serum was given because the parents were not present. The attending physician telling the child to come next day and bring his mother. For some reason they did not return and consequently no anti-tetanus serum was given. .When brought to the hospital the child's jaws were set and opisthotonus was marked. Under general anesthesia, the wadding was removed from the wound, the latter cleansed and 5000 units of anti-tetanus serum infiltrated around the wound, 20000 units being given both intravenously and intraspinally daily until the sixth day when 10000 units only were given intravenously making a total of 135000 units received. On the seventh day after admission the patient developed double lobar pneumonia and was severly ill from this for the next seven days when he recovered by crises, leaving the hospital well on the twentieth day following admission. This case was given bromochloral in four c.c. doses every three and four hours. This was augmented at times with an HMC No. 2 to control spasms. No chloroform was needed to control spasms in this case.

Case No. 12. Boy eight years of age, stuck thorn in foot eight days before. No anti-tetanus serum was given. He was brought to the hospital at midnight by the parents who suspected tetanus from his symptoms of stiff jaws and pain in back. This child was given 20000 units of anti-tetanus serum both intravenously and intraspinally daily, also 5000 units around wound at time of incising and cleaning, making a total of 85000 units. Bromochloral per rectum to control spasms. His response to treatment was splendid and recovery complete in ten days with exception of rigidity of lumbar muscles which lasted quite a time.

Case No. 13. A boy ten years of age who had almost severed his great toe with a piece of iron. His wound was dressed by a physician but for some reason anti-tetanus serum was not given. He was brought to the hospital on the tenth day following the accident, with developed symptoms of tetanus. Debridement of wound was done, 5000 units of anti-tetanus injected at base of toe, and 20000 units each given intravenously and intraspinally, immediately. Chloral hydrate, two grams per rectum and an occassional HMC No. 2 to control spasms; chloroform was resorted to twice. A total of 165000 units was given and the boy left the hospital on the eighteenth day, recovered.

Case No. 14. Boy six years, stuck a splinter in his foot six days previous to developing symptoms. Family did not think it necessary to call a doctor, so no anti-tetanus serum was given. This child was very ill when entering the hospital and although the usual treatment was immediately instituted, the child succumbed within twelve hours to respiratory paralysis (spastic).

Case No. 15. A five year old boy who had stuck a splinter beneath his finger ten days before. The finger was treated antiseptically at the time but no anti-tetanus serum given. The patient was brought to the hospital the eleventh day after receiving wound. Anti-tetanus serum, both intravenously and intraspinally began at once. The same routine of treatment as outlined in above cases was adhered to with the addition of small doses of phenol administered subcutaneously. This little patient made a good recovery and left the hospital on the tenth day following the beginning of treatment.

SUMMARY

Of the fifteen cases cited above four died practically untreated, viz., cases num-

ber two, three, five, and seven, while one case, number fourteen succumbed within twelve hours after diagnosis was made. If we delete the first four cases as non-treated we have eleven treated cases with five deaths showing a recovery percentage in the treated cases of 54.54%

If we only consider the nine treated cases that were diagnosed immediately when first seen by the physician and serum treatment instituted immediately, we have a death of only three, with a recovery of six or 66.66%. This latter record is of interest only in showing that if the patient is seen and diagnosed early after the first symptoms appear, we have better than a 50-50 chance of curing the patient.

It is also perfectly obvious as has been stated by authoritative observers, that the earlier the disease occurs following the injury, higher will be the percentage of mortality. It also is evident from the above records that it is impossible to estimate just how large the initial doses of serum should be or how often and how many times it should be repeated, but our experiences have lead us to believe that relative large doses given both intravenously and intraspinally repeated every twelve to twenty-four hours furnishes the greatest chance for recovery. It also has been our observation that the administration of the serum into the spinal canal without allowing a compensatory drainage of spinal fluids tends to enhance the effectiveness of the serum. This is believed to be due to the fact, that the increased pressure produces a better diffusion of the serum around the spinal roots where they leave the cord. This latter theory is our own and based solely on our experience with both methods.

CONCLUSIONS

1. Anti-tetanus serum administered at the time of the probable infection, if given in sufficient quantity, will absolutely prevent tetanus.

2. More extensive the wounds, more prophylactic serum is required and a higher number of consecutive weekly injections.

3. All delayed operations on old previously infected wounds such as old compound fracture cases should be preceded by a prophylactic dose of anti-tetanus serum.

4. All cases of puncture wounds, however small, and all soil contaminated open wounds should receive at the time of first dressing a prophylactic dose of anti-tetanus serum.

5. County Medical Societies should educate the public as to the dangers and frequency of tetanus infection and the ease and safeness of its prevention.

6. Every physician should always look for tetanus and a site of infection, in nervous patients, as in some cases of tetanus the infecting injury is so trivial that it is only after close questioning of the patient, or if a small child, of its mother will the history of a trivial injury be elicited, but all of this is important to an early diagnosis.

7. When a diagnosis of tetanus is once made heroic treatment, both specific and symptomatic, should be begun at once and pushed vigorously until danger is past.

8. In addition to excising or incision and cauterizing the wound tract, thorough infiltration with anti-tetanus serum, of tissue immediately surrounding the wound, should always be resorted to in order to block the stream of toxins flowing to the central nervous system.

9. Tetanus is far more prevalent in this state than is generally supposed and the statistics of the Oklahoma State Health Department of the past seven years, which are herewith appended should be illuminating to many physicians.

Deaths from tetanus in Oklahoma are as follows:[3]

Year	Number of Deaths
1923	33
1924	35
1925	73
1926	93
1927	85
1928	76
1929	47
Total	447

1. From Warbasse's Surgery.

2. From the records of the Border-McGregor Hospital and Clinic.

3. From the Bureau of Communicable Diseases of the Oklahoma Department of Public Health.

PANORAMIC VIEW OF THE WOMAN'S AUXILIARY TO THE A.M.A.—IN FOUR ARTICLES

1. THE EASTERN DISTRICT

MRS. W. WAYNE BABCOCK
PHILADELPHIA

According to the Constitution of the National Auxiliary the first Vice-President is automatically Chairman of the organization, the three other Vice-Presidents being organizers for their section of the country. Mrs Southgate Leigh of Virginia, therefore holds this Chairmanship, and the Eastern District is her particular responsibility. At her request a series of four articles is being prepared by her committee in order that each district may be cognizant of the progress of its own State's as well as those of the other three sections, The individual state journals have been generous in extreme in the space they have allowed their auxiliaries and this additional courtesy of reporting the auxiliary situation in other states is deeply appreciated, for there is a growing desire to know "what others are doing."

New Hampshire stands alone as the only New England state 100% organized and co-operating with the national organization. Last year the state auxiliary had misgivings as to its necessity and usefulness but an urgent request from the medical society that the women remain organized, dispelled all doubts. During the year following, Mrs. Hubbard, wife of the State President, visited every county which encouraged and stimulated the growth of unit auxiliaries.

The New Jersey Auxiliary made pilgrimages to state institutions, set apart one meeting when the mothers of physicians were entertained, and sponsored various health meetings. The Essex County Auxiliary, assisted by the physicians, succeeded in establishing a course of health talks, in co-operation with the Y. M. C. A., of Newark, emphasizing especially prenatal care and information which would aid the mothers of babies and young children. Last year Mrs. James Hunter, Jr., New Jersey's State President, visited every county as did Mrs. Walter Jackson Freeman in Pennsylvania, during her Presidency. One cannot help drawing the conclusion that personal contacts are necessary for county development and success.

Virginia is active in spots. The doctors encourage the auxiliaries as they believe that through them education with regard to the menace of state medicine can be spread.

Ohio for several years has been sending representatives from a few organized counties to the national meetings but as yet there is no state organization. As our friend and advisor, Dr. Upham, lives in Ohio, it is felt that he will advise the national auxiliary when the auspicious time arrives for the establishment of a State Auxiliary.

The District of Columbia seems so completely diverted with Washington affairs that the auxiliary which so capably cared for the A. M. A. meetings some years back seems to have gone in retirement.

Delaware in a breathless, better-late than-never manner, has completely caught up and is most interested and active and has entered upon serious work by assisting the men of the profession in establishing a medical library in Wilmington. They will co-operate with Philadelphia at the time of A.M.A. and the eastern section will introduce them with pride to the national organization. West Virginia is up and doing and you may expect still better things from that state this year.

Maine, Massachussetts, Rhode Island, Vermont and Maryland have reported the interest of individuals but no organized effort. Queries from different localities in New York as to why there is no auxiliary have been answered with the statement that several years ago the House of Delegates voted unanimously in favor of the auxiliary and authorized its organization. The same year Connecticut voted favorably but no definite steps have been taken.

Pennsylvania has surely discovered the rhythm in which its auxiliary work is best done, for concrete accomplishments have been turned out regularly, year by year. Of the three thousand dollars contributed last year to the Medical Benevolence Fund more than two-thirds was contributed by the Auxiliary. A definite trend toward educational meetings is felt all over the state and socially it is hoped that the carefully formed Philadelphia plans for the next meeting will bring honor and glory to the Keystone State. Not only are the adult members of the auxiliary meeting, but a group of the most charming and

goodlooking daughters of doctors are working together in order that they may know each other and work in unison for the comfort and pleasure of the A.M.A. guests when they come to Philadelphia in May. Verily, who can question the wisdom of the auxiliary, when it brings about so much willing work in behalf of the medical men of the country?

SPONTANEOUS SUBARACHNOID HEMORRHAGE

It is the pinion of Joseph McIver and George Wilson, Philadelphia (Journal A. M. A., July 13, 1929), that the acute infections produce meningeal hemorrhages by the occlusion of many small vessels with infectious emboli and in this way weaken the wall of that vessel through a degenerative process, thus leading to a hemorrhage. Since many of these small vessels may become occluded many small hemorrhages may be produced, a sufficient number to render the spinal fluid distinctly bloody. One will readily recall the numerous petechial hemorrhages seen over the body in cases of meningococcic meningitis. These hemorrhages are probably produced by occlusion of the same vessels and wall degeneration from the infectious emboli. The onset in subarachnoid hemorrhage is sudden as a rule. The mentality of the person is disturbed and its irregularity may take the form of somnolence, stupor, delirium or coma. Consciousness may be completely lost and all stimuli may fail to arouse the patient. The neck is invariably stiff, though it does not become so immediately and Kernig's sign is practically always present. The pupils may be small, unequal or dilated. Occasionally one or more of the cranial nerves is involved and there may be partial or complete hemiplegia; the rule, however, is for the face and arm to show more involvement than the leg, because the hemorrhage is more often basilar in origin, and the face and arm centers, being lower down on the cortex, would be first involved by the pressure of a blood clot. The tendon reflexes are quite often absent although they may be decreased, normal or in some cases increased. Babinski's toe sign is often present on the hemiplegic side, if such exists, and occasionally it has been seen on both sides. Headache is a prominent symptom and is usually severe, and vomiting, often present, is sometimes persistent. Pain or pressure is occasionally noted at the site of the hemorrhage. The mental symptoms last from a few days to a few weeks, and the process of returning to normal is gradual. The pulse and respiration may be slow or rapid depending on the amount of intracranial pressure and shock, and a moderate rise of temperature frequently exists. The spinal fluid is bloody and the pressure increased. The eyegrounds often present marked changes in severe cases and the optic nerves show choking, which slowly recedes; in other cases the retinal vessels are markedly sclerosed and often numerous hemorrhages are seen. Glycosuria and hyperglycemia have been found occasionally, but these have disappeared with spinal drainage. Spinal drainage is undoubtedly the most important procedure in relieving the patient of the symptoms that are due directly to meningeal hemorrhage. It should be done daily until the fluid is colorless. A rather prolonged rest in bed is essential and treatment of the underlying condition is imperative; this may be syphilis, hypertension, nephritis, intracranial aneurysm or arteriosclerosis. In addition to frequent lumbar punctures for the relief of increased pressure, magnesium sulphate by mouth or bowel, intravenous injections of dextrose and a limitation of fluids will serve to decrease intracranial pressure. A moderate dose of magnesium sulphate may be given daily and 50 cc. of a 50 per cent dextrose soloution may be given daily or every other day. Fluids should be limited to 500 or 1,000 cc. daily. If cases of spontaneous subarachnoid hemorrhage are recognized and the proper treatment instituted, a great majority of patients will recover. However, if they are allowed to drift along the increased intracranial pressure will frequently lead to death. If recovery does take place it will often be with permanent disability because of the presence of blood clots in the subarachnoid space. These will result in such complications as epilepsy, perhaps local motor weakness and mental retardation.

MALIGNANT DEGENERATION OF BRANCHIAL CLEFT REMNANT

C. A. Roeder, Omaha (Journal A. M. A., July 13, 1929), reports the case of a man, aged 60, who had a tumor about 2 cm. in diameter apparently attached to the anterior and inner border of the midportion of the right sternomastoid muscle. Treatment with roentgen rays apparently brought about a reduction in size. It began to enlarge about one month before his examination. A frozen microscopic section during an exploratory operation demonstrated an epithelial malignant condition, and an immediate removal of the sternomastoid muscle with the spinal accessory nerve and internal juglar vein, together with adjacent fascia and lymphatic nodes, was carried out. The dissection was difficult, owing to the previous effect of the x-rays on the deep structures. The wound failed to heal and an extension of the malignant area was very apparent two months later. The electric cautery and radium were then applied without any apparent effect, and in September a radical removal of all structures on the right side of the neck was proposed after the roentgenograms failed to show any extension into the thorax. Five months following the operation, the patient appeared in good health, no pain was present, and he could move his head freely in all directions. Four and one-half years after the operation, the patient appears in perfect health. Roeder feels that the previous administration of the roentgen rays greatly assisted in obtaining the final excellent results.

VITAMIN ADVERTISING AND THE MEAD JOHNSON POLICY

The present spectacle of vitamin and irradiation advertising running riot in newspapers and magazines and via radio emphasizes the importance of the physician as a controlling agent in the use of vitamin products.

Mead Johnson & Company feel that vitamin therapy, like infant feeding should be in the hands of the medical profession, and consequently refrain from exploiting vitamins to the public.

THE JOURNAL

OF THE

Oklahoma State Medical Association

Issued Monthly at Muskogee, Oklahoma, under direction of the Council.

VOL. XXIV FEBRUARY, 1931. No. 2.

DR. CLAUDE A. THOMPSON.....Editor-in-Chief
Memorial Station, Muskogee, Okla.

DR. P. P. NESBITT.....Associate Editor
Medical Arts Building, Tulsa, Okla.

Entered at the Post Office at Muskogee, Oklahoma, as second-class mail matter July 28, 1912.

This is the official Journal of the Oklahoma State Medical Association. All communications should be addressed to The Journal of the Oklahoma State Medical Association, Barnes Building, Muskogee, Oklahoma. $4.00 per year; 40c per copy.

The editorial department is not responsible for the opinions expressed in the original articles of contributors.

Reprints of original articles will be supplied at actual cost, provided requests for them is attached to manuscripts or made in sufficient time before publication.

Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Failure to receive The Journal should call for immediate notification of the editor, Barnes Building, Muskogee, Oklahoma.

Local news of possible interest to the medical profession, notes on removals, changes in address, births, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A., will not be accepted.

Advertising rates will be supplied on application. It is suggested that wherever possible members of the State Association should patronize our advertisers in preference to others as a matter of fair reciprocity.

PRINTED BY HOFFMAN-SPEED PRINTING CO., MUSKOGEE

EDITORIAL

SOUTHWESTERN OKLAHOMA HOSPITALS

Few physicians who have not had occasion to visit Southwestern Oklahoma are in position to appreciate the very fine work and the great service rendered by the hospitals in the Southwestern part of the State. In all of these hospitals, which are relatively small, the turnover is very heavy and the work is often very burdensome, this due to the fact that long distances intervene between their location. As this issue is devoted almost entirely to the productions of Southwestern physicians, it was deemed that a brief synopsis of the capacity and organization of its hospitals would be in keeping. They follow:

THE FREDERICK CLINIC HOSPITAL, FREDERICK

This hospital was organized in 1922; has a capacity for fifteen beds, is operated by a closed staff and cares for surgical, medical and obstetrical cases. No training school is maintained.

THE TISDAL HOSPITAL, ELK CITY

This hospital was organized in 1913 by Doctors C. W. Tedrowe and V. C. Tisdal, but under the management of Dr. V. C. Tisdal since 1916. This hospital was closed during the World War and reopened in 1920. In 1924 a new building was constructed, with fifty-three rooms, equipment being modern throughout. The institution has a modern sterilizing room, two modern operating rooms, X-ray equipment, of a capacity for deep therapy treatment, physio-therapy, and a laboratory in which blood chemistry, bacteriology, tissue work, and similar high grade work is done.

In 1928 a thirty-five bed hospital at Sayre, Oklahoma, was built, operating in conjunction with the Tisdal Hospital, giving the two a bed capacity of seventy-three. This hospital also has X-ray, physio-therapy and laboratory equipment. A training school for nurses was incorporated in 1924.

THE STANDIFER HOSPITAL, ELK CITY

The Standifer Hospital was organized in 1914 and has operated continuously since then, except for the years 1916 and 1917. In 1927 a new brick building was erected, consisting of fifty rooms; this equiped with modern X-ray plant, physio-therapy, chemical laboratory, and is modern in every respect. It has no training school and is operated by a closed staff.

THE BORDER-McGREGOR HOSPITAL, MANGUM

This is the oldest hospital in Southwestern Oklahoma; first organized thirty years ago by Dr. Fowler Border and housed in a small frame structure of ten beds. For years this was the only hospital between Oklahoma City and Amarillo, Texas. In 1907 a thirty-two room brick building was built, which served until 1928 when that building was expanded by fifty beds, the total capacity of this building, if circumstances demanded may be increased to one hundered beds. The new building is furnished throughout in the modern trend

of the newer hospital, that is, a steel equipment, harmonizing in color, with an interior decoration scheme. A fine laboratory is maintained for metabolic, pathological, bacteriological, X-ray and chemical work. The building is equiped throughout with electric refrigeration, has its own ice making machine and circulating ice water to drinking fountains throughout. It has electric elevators of the newer type. Two major operating rooms are finished with black and white tile floors and side walls, with an observation gallery enclosed in solid plate glass. The obstetrical department is isolated, has its own diet kitchen and other appurtenances. Attached to this is a most beautiful nursery. The cost of the building was $150,000.00. A nurses' training school was chartered in 1927, but was not organized until 1919. A separate building is maintained as a nurses' home. For many years admission to the hospital was confined exclusively to surgical cases, but in 1921 it was opened as a general hospital; no mental or contagious cases being admitted. The hospital is operated by a closed staff. This is the only hospital in the State having an airplane ambulance. It is also served by two motor ambulances.

THE S. A. AND A. HOSPITAL AND CLINIC
FREDERICK

This hospital is owned and operated by Doctors Spurgeon, Allen, and Arrington. It is a two story brick building and has a capacity for fifteen beds. This hospital was organized in 1922.

THE ERICK HOSPITAL, ERICK

The Erick Hospital was organized in 1925 by Dr. G. H. Stagner. It has a capacity of twenty beds and is operated by an open staff. It has a chartered school for training nurses, but this is not in operation at this time. It is a general hospital devoting its activities to the requirments of medical and surgical cases.

DUODENAL ULCER, TREATMENT, AN UNSETTLED PROBLEM

Out of a mass of verbal comments, an enormous amount of literature and personal observation of many cases of duodenal ulcer, the writer is firmly convinced that the successful treatment of duodenal ulcer positively depends upon an important triad; these are, an intelligent, cooperative patient; an honest, competent internist; with an honest competent surgeon always available. Co-operation upon the part of the patient over the prolonged course of medical treatment demanded is most difficult to be had, but without such co-operation most of the cases are foredoomed to failure. Assuming however that we have such a patient, the writer fears that possibly, at least in some cases, the medical man may wait too long and place too much reliance upon purely medical treatment, while on the other hand it must be admitted that we still occasionally meet the surgeon too prone to perform either some type of plastic operation or gastroenterostomy.

Crile[1], after reviewing 2100 cases concludes that the treatment "is not settled," that there is no set rule for treatment, that the cases get better with few exceptions, immediately on medical treatment and that for months they get better after operation. Then they may begin to have recurrences which may persist for ten, fifteen or twenty years. He noted that often operative results are misleading by reason of the fact that the patient usually would get better but that often marginal ulcer or other complications occur. To him, therefore, treatment is still an open matter, though he was inclined to believe surgical treatment offered the best results. All treatments seem to seek control of acidity. That can be accomplished whether medicine or surgery is used. Gastrectomy is usually successful, usually has no recurrence, but the mortality is high; in the hands of the most skilled operators, 3 to 5%. It is said that European surgeons use gastrectomy in preference to other means, as giving the best results as to a cure.

Stewart McGuire[2] states that the first question is to determine whether treatment should be medical or surgical and perhaps it is now generally accepted that a duodenal ulcer, unless marked pyloric obstruction exists or that X-ray shows the ulcer to be of the perforating type, should be treated medically, provided the co-operation of the patient can be secured. So firmly is McGuire convinced of the efficiency of medical treatment in properly selected cases, and in the better results secured in the cases cured medically, compared with those surgically, that when operating on a patient who has both duodenal ulcer and chronic appendicitis, he often removes the appendix, leaving the ulcer to be treated by the internist. But he notes that success in medical treatment depends not only on the nature of the

lesion but on the temperament, intelligence and financial means of the patient, and the peculiar psychology of the patient, who would be perfectly willing to stay in the hospital for operation but not willing to stay the same length of time for a cure of the disease by medical treatment. So he thinks that patients of scant intelligence, those lacking control necessary to cut out the desires of appetite had better be turned over to surgeons to have their ulcers cut out. It is also his observation that hard manual labor, coincident with the necessity for subsisting upon coarse and improperly cooked foods is an insuperable barrier to successful medical treatment, and that therefore medical treatment of duodenal ulcer is poor treatment for poor people.

It seems to be very generally admitted that medical treatment, as a rule, in the absence of positive contraindications should first be instituted and in the event of failure surgery must be considered. The indications for surgical operation are hemorrhage, perforation or persistent recurrence of symptoms after prolonged medical treatment has failed but it must be remembered that medical treatment calls for an unusually high degree of persistent and intellectual control on the part of the patient and utmost co-operation between patient and physician.

(1) Personal statements, Dallas Southern Clinical Society, April, 1930.

(2) Surgical Clinics of North America, August, 1930.

THE WICKERSHAM REPORT

The medical profession, in so far as its vexations are concerned, perhaps may be able to glean more satisfaction from the Wickersham Report than any other party of people. While no two seem to be able to agree upon the goodness, badness or futility of this report, the medical profession at least should feel some satisfaction that a party of learned gentlemen, after 18 months of study and the expenditure of many thousands of dollars has definitely concluded and recommended unanimously, that from the Volstead Law, which is based upon the 18th Ammendment, there should be removed certain elements "because of irritation and resentment on the part of the medical profession." The report recommends doing away entirely with the statute fixing the amount of liquor which may be prescribed and the number of prescriptions which a physician may use; abolishment of the requirement demanding that diagnosis be shown on the prescription blank, and finally leaving as much as possible to regulations rather than fixing details by statute. The prescribing of liquor, as we have noted before, is of little interest to Oklahoma physicians for we have no such right, however, it is a cause of gratification to appreciate that finally an official body has taken cognizance of the universal complaint of physicians who are thoroughly exasperated over the silly and time wasting elements entering into the prescribing of liquor. However, if no one seems to agree over this report in entirety, we must look with surprise upon the suggestion that there be left "as much as possible to regulations." The doctor certainly has had too much regulation wherever he comes in contact with the Federal Government. It would seem that regulations on anything affecting the physician are only sources of resentment and irritation, regardless of whatever they may be. The income tax law is one of the glaring examples of a most aggravating source of irritation to the physician.

EXTENSION DEPARTMENT OF THE UNIVERSITY OF OKLAHOMA

A fair number of physicians and dentists, by this time, are familiar with the great and beneficial potentialities of the work of the University of Oklahoma as affecting these professions. The instructors in both medical and dental work are of the highest class and bring to the local physician information, which sought by other means, would prove a very costly burden indeed.

This service to these two professions of Oklahoma is a mere drop in the bucket, however, compared to similar and greater services extended to practically every class of people and every calling in the State. It seems to the writer that this service existing through the authority of a great University is the wisest possible expenditure of the taxpayers' money. It should not be forgotten in this connection that the cost per capita for the service rendered is practically nil. The writer knows of no service rendered by States which is of greater good to such a great number.

DOCTOR GEORGE N. BILBY, STATE COMMISSIONER OF HEALTH

The Journal takes pleasure in introducing to our members our new State Commissioner of Health, recently appointed by Governor Murray. The salient features of Dr. Bilby's career are as follows:

Born March 6, 1868, Ottumwa, Iowa.

Attended district schools, and also Highland Park at Des Moines.

Graduated in medicine from Louisville School of Medicine, 1894.

Moved to Cushing and then Stroud, Oklahoma in 1899.

Resided at Alva, Oklahoma, ever since.

Served as Constitutional Convention Delegate 6th District.

Appointed County Health Superintendent of Woods County by Governor Williams.

Examiner on Board of Exemption until time he was called into the army.

Served in World War one year and one month. Nine months Transport Surgeon. Remainder of time on Board of Examiners of Board of Embarkation, Hoboken, N. J.

Hasn't served any since that time.

Been practicing medicine since then.

Appointed State Health Commissioner, 1931.

The State Medical Association assures Dr. Bilby of its support in the conduct of his office.

REGISTRATION UNDER THE HARRISON NARCOTIC ACT

While we are discussing things of irritation to the physician we should not forget the possibilities of serious trouble which can occur to any busy, overworked, but neglectful physician who fails to register on or before July 1st of each year. It is only necessary to note that the Harrison Narcotic Act provides that anyone who violates or fails to comply with its requirements shall be fined not more than two thousand dollars ($2000.00) or imprisoned for not more than five years, or both, at the discretion of the court. Oklahoma physicians who register under this act sould remember to do so before or on July 1st of this year.

ANNUAL MEETING COMMITTEES

The following committees have been selected for the annual meeting at Oklahoma City, May 11, 12, 13, 1931:

General Chairman: Dr. Cyril E. Clymer.

Vice-Chairman: Dr. Henry H. Turner.

Program: Dr. A. W. White, Chairman, Dr. Ray Balyeat.

Finance: Dr. E. S. Lain, Chairman; Dr. L. J. Starry.

Badges: Dr. Phil McNeil.

Entertainment: Dr. J. M. Alford, Chairman; Dr. Rex Bolend; Dr. Dick Lowry.

Golf: Dr. Wendell Long.

Reserve Officers: Dr. John A. Roddy, Chairman; Dr. Lea A Riely.

Fraternal Dinners: Dr. E. P. Allen; Dr. John Heatley.

Women's Entertainment: Ladies' Auxiliary, Mrs. C. M. Pounders, President.

Hotels: Dr. John J. Mraz.

Exhibits: Dr. Earl McBride.

Scientific Exhibits: Dr. Curt von Wedel.

Meeting Place: The Shrine Temple.

Editorial Notes—Personal and General

CADDO COUNTY MEDICAL SOCIETY elected the following officers, December 10, 1930: Dr. J. H. Cantrell, Carnegie, president; Dr. P. H. Anderson, Anadarko, secretary.

OKLAHOMA COUNTY MEDICAL SOCIETY elected the following officers for 1931 at their January meeting: Dr. J. M. Alford, president; Dr. Hugh Jeter, vice-president; Dr. K. G. Parks, secretary. All of Oklahoma City.

JEFFERSON COUNTY MEDICAL SOCIETY elected the following officers for 1931 at their recent meeting: President, Dr. F. M. Mingus, Ringling; Secretary, Dr. W. C. Burgess, Ringling; Delegate, Dr. L. L. Wade, Ryan.

ST. ANTHONY'S CLINICAL SOCIETY, Oklahoma City, met January 19th and elected the following officers for 1931: President, Dr. W. K. West; Vice-President, Dr. N. P. Eley; Secretary-Treasurer, Dr. K. G. Parks. All of Oklahoma City.

NOBLE COUNTY MEDICAL SOCIETY elected the following officers for 1931 at their meeting in January: Dr. B. A. Owen, Perry, president; Dr. J. W. Francis, Perry, secretary-treasurer; Dr. B. A. Owen, delegate; Dr. T. F. Renfrow, Billings, alternate.

SEMINOLE COUNTY MEDICAL SOCIETY elected the following officers for 1931 at their regular meeting in January: Dr. T. H. Briggs, president, Wewoka; Dr. O. C. Butler, vice-president, Seminole; Dr. H. A. Kiles, secretary-treasurer, Konawa.

MURRAY COUNTY MEDICAL SOCIETY met in regular session in January and elected the following officers for 1931: Dr. O. W. Sprouse, president; Dr. H. C. Bailey, secretary; Dr. P. V. Annadown, delegate; Dr. D. W. Slover, alternate; all of Sulphur.

McCLAIN COUNTY MEDICAL SOCIETY elected the following officers for 1931 at a recent meeting: Dr. I. N. Kolb, president, Blanchard; Dr. W. C. McCurdy, vice-president, Purcell; Dr. O. O. Dawson, secretary-treasurer, Wayne; Dr. G. S. Barger, delegate, Purcell.

KIOWA COUNTY MEDICAL SOCIETY met January 9th, at Hobart, and elected the following officers for 1931: President, Dr. A. H. Hathaway, Mt. View; Vice-President, Dr. J. L. Adams, Hobart; Secretary-Treasurer, Dr. J. H. Moore, Hobart; Delegate, Dr. J. A. Land, Hobart.

ROGERS COUNTY MEDICAL SOCIETY elected the following officers for 1931 at their January meeting: Dr. A. M. Arnold, Claremore, president; Dr. J. C. Bushyhead, Claremore, vice-president; Dr. W. A. Howard, Chelsea, secretary-treasurer; Dr. W. S. Mason, Claremore, delegate.

DR. L. J. MOORMAN, Oklahoma City, spent sometime recently in Colorado, reading a paper by invitation before the Medical Society at Colorado Springs; he was also on the program of the Arkansas Valley Medical Society. While absent Dr. Moorman looked in on special surgical work of the chest being done at Fitzsimmons Hospital.

ADAIR COUNTY MEDICAL SOCIETY held a meeting January 7th in the office of Dr. E. P. Green and officers for the ensuing year were elected: Dr. I. W. Rogers, Watts, president; Dr. R. M. Church, Stilwell, vice-president; Dr. D. P. Chambers, Stilwell, secretary; Drs. E. P. Green, R. M. Church and R. L. Sellers, censors.

CANADIAN COUNTY MEDICAL SOCIETY met in regular session the first of January and elected the following officers for 1931; Dr. Wm. J. Muzzy, El Reno, president; Dr. H. A. Dever, El Reno, vice-president; Dr. A. L. Johnson, El Reno, secretary-treasurer; Dr. Leroy Goodman, Yukon, delegate to the State meeting.

CRAIG COUNTY MEDICAL SOCIETY held their regular meeting January 13th, and the following officers were elected: Dr. D. B. Stough, president, Vinita; Dr. J. F. Walker, vice-president, Grove; Dr. P. L. Hays, secretary-treasurer, Vinita; Dr. F. M. Adams, delegate, Vinita; Dr. C. S. Neer, alternate, Vinita; Dr. Louis Bagby, censor, Vinita.

THE AMERICAN PROTOLOGIC SOCIETY will hold their annual meeting, June 7, 8, 9, 1931, at the Bellevue-Stratford Hotel in Philadelphia. The special feature of the session will be a series of lectures on protologic subjects by Mr. J. P. Lockhart Mummery, Chief Surgeon of St. Marks Hospital in London and an Honorary Fellow of the Society.

ALFALFA COUNTY MEDICAL SOCIETY met in joint session with Woods County Medical Society, in Cherokee, November 25, 1930 and elected the following officers for 1931: President, Dr. Z. J. Clark, Cherokee; Vice-President, Dr. J. W. Mercer, Cherokee; Secretary-Treasurer, Dr. L. T. Lancaster, Cherokee; Delegate to State Convention, Dr. Z. J. Clark.

THE AMERICAN ASSOCIATION FOR THE STUDY OF GOITER again offers an award of $300.00 for the best essay based upon original research work on any phase of goiter, this to be presented at their annual meeting to be held in Kansas City, Mo., April 7, 8, 9, 1931. Information may be had by writing Dr. J. R. Yung, Terre Haute, Indiana, before April 1st, 1931.

CARTER COUNTY MEDICAL SOCIETY elected the following officers for 1931 at their January meeting: President, Dr. Robert H. Henry, Ardmore; Vice-President, Dr. David Autry, Marietta; Secretary-Treasurer, Dr. R. C. Sullivan, Ardmore; Delegates, Drs. C. A. Johnson, Wilson; F. A. Harrison, Ardmore; Alternates, Drs. W. R. Mote, Ardmore; G. E. Johnson, Ardmore.

CUSTER COUNTY MEDICAL SOCIETY met December 26th at the State Tuberculosis Sanatorium, Clinton, Oklahoma, and elected the following officers for 1931: Drs. Lealon E. Lamb, Clinton, president; E. M. Loyd, Taloga, vice-president; E. E. Darnell, Clinton, secretary-treasurer; C. H. McBurney, Clinton, delegate; C. J. Alexander, Clinton, alternate; O. H. Parker, Custer, censor; Ellis Lamb, Clinton, Committee on Public Policy.

OTTAWA COUNTY MEDICAL SOCIETY was entertained at Picher, January 13, for their first meeting of the year. Dr. F. V. Meriwether and the U. S. Bureau of Mines Clinics served dinner to the society. Dr. E. A. Aisenstadt read a paper on "Traumatic Surgery," which was discussed by Drs. DeArman, DeArman, Shelton and McNaughton. Mr. John Campbell of the Eagle-Picher Lead and Zinc Company discussed the Medico-Legal Relations of Traumatic Surgery.

OSAGE COUNTY MEDICAL SOCIETY elected the following officers for 1931 at their meeting in January, 1931: Dr. M. Karasek, Shidler, president; Dr. Roscoe Walker, Pawhuska, vice-president; Dr. M. E. Rust, Pawhuska, secretary-treasurer; Dr. C. K. Logan, Hominy and Dr. Divonis Worten, Pawhuska, delegates to State Meeting; Drs. Roscoe Walker and M. Karasek, alternates; Drs. E. N. Lipe, Fairfax; Roscoe Walker, Pawhuska; C. H. Guild, Shidler, and M. Karasek, Pawhuska, censors.

CLEVELAND COUNTY MEDICAL SOCIETY met January 13, and installed the following officers for 1931: Dr. M. M. Wickham, Norman, president; Dr. J. B. Lambert, Lexington, vice-president; Dr. D. G. Willard, Norman, secretary-treasurer; Dr. C. S. Bobo, and Dr. Willard, Nor-

man, delegates to the State Convention; Drs. W. T. Mayfield and T. J. Dodson, Norman, alternates. The election followed a dinner given the society by Dr. D. W. Griffin and members of the Central State Hospital staff.

OKMULGEE-OKFUSKEE COUNTY MEDICAL SOCIETIES held their joint meeting at Okmulgee on January 19, 1931. The following program was given: Mrs. Vivian Munsell, Graduate Nurse, "Hourly Nursing"; Dr. Leonard Williams, Oklahoma City, "Some of the New Methods of Diagnosis in Gynecology"; Dr. Ben Cooley, Norman, "Coronary Thrombosis"; Dr. Henry Turner, Oklahoma City, "Relationship between Neurology and Endocrinology."

OKMULGEE COUNTY elected the following officers for 1931: President, Dr. W. S. Watson, Okmulgee; Vice-President, Dr. T. C. Carloss, Morris; Secretary-Treasurer, Dr. M. B. Glismann, Okmulgee; Censor, Dr. J. P. Nelson, Schulter.

POTTAWATOMIE COUNTY MEDICAL SOCIETY entertained about fifty guests from various parts of the State, with a banquet, and a scientific program, in the Aldridge Hotel, Shawnee, January 17. Officers of the society for the year 1931 were elected as follows: President of the society, Dr. John I. Gaston; First Vice-President, Dr. W. M. Gallaher; Second Vice-President, Dr. R. M. C. Hill; Secretary-Treasurer, Dr. F. C. Gallaher.

The scientific paper for the evening was presented by Dr. W. P. Fite, of Muskogee. His subject was "Arthritis," and his survey of the recent studies, his accurate discussion of classification, and his indication of relative values of therapeutic measures was most valuable.

Discussion of the paper was opened by Dr. Kelley West, of Oklahoma City. He presented also a motion picture on the subject, "The Technique of Arthrodesis of the Hip Joint by Surgical Procedure." Dr. L. S. Willour, of McAlester, indicated the importance of treating the sick patient, as well as the arthritis. Dr. Von Wedel, of Oklahoma City, indicated the importance, and some considerations in the differential diagnosis of acute arthritis and acute osteomyelitis. The discussion was continued by Dr. C. A. Thompson, of Muskogee, and closed by the remarks of Dr. Fite.

Other guests present included: Dr. Ferguson, of Oklahoma City, President of the State Society; Dr. Webber, and Dr. Somerville, of Bartlesville, the former, who is the President-Elect of the State Association, gave a brief resume of the present status of State Medicine.

OKLAHOMA HOSPITAL AND SANITARIUM

The Hospital in Tulsa, Oklahoma, formerly known as the Oklahoma Hospital and operated for a number of years by Doctor Fred S. Clinton is to be reopened shortly and operated as an exclusive sanitarium for nervous and mental cases. It will be known henceforth as the Oklahoma Hospital and Sanitarium. It will be under the medical direction of Doctor Ned. R. Smith, 703 Medical Arts Building, Tulsa, Oklahoma. Associated with Doctor Smith in the operation will be Mr. and Mrs. T. N. Neese, formerly of Topeka, Kansas. Mr. and Mrs. Neese have had twenty-five years experience in the management of sanitariums of the very highest character. This will, no doubt, be welcome news to the profession of Oklahoma as it will provide means whereby mental and nervous patients requiring institutional facilities can be cared for within reasonable distances of their homes. Adequate equipment of the very latest type has been installed and special emphasis will be placed upon hydrotherapy and rest cure.

OPPOSED TO ALL FORMS OF CONTRACT MEDICINE

The LeFlore County Medical Society, on January 26th, adopted the following resolution:

"It is hereby resolved that the LeFlore County Medical Society go on record as being opposed to all forms of contract medicine not having the sanction of organized medicine as represented by the State and National Medical Societies. This was done in order to combat the insidious outspread of certain organizations which are drafting into membership all classes of people."

DALLAS SOUTHERN CLINICAL SOCIETY

The third Annual Spring Clinical Conference of the Dallas Southern Clinical Society will be held in Dallas during the week of March 30th. Invitations to attend are being sent to all orthodox physicians of the Southern States and Mexico. The program for the week is built around the lectures and hospital demonstrations of seventeen guest lecturers, among whom are Dr. Walter C. Alvarez of Rochester, Minnesota, Dr. Louis J. Hirschman of Detroit, Drs. Morris Fishbein, Russell Wilder, C. G. Grulee, L. J. Pollock, A. A. Hayden and W. A. Pusey of Chicago. Drs. Chevalier Jackson and H. K. Pancoast of Philadelphia, Dr. Dean Lewis of Baltimore, Dr. Jeff Miller of New Orleans and others. Ninety-six hours of organized post-graduate work is being offered by local men in addition to the general assemblies and hospital clinics. The Baker Hotel is headquarters for registration and all assemblies.

TUBERCULOSIS

Edited By
L. J. Moorman, M.D.
304 Osler Bldg., Oklahoma City

Pulmonary Asbestosis. By Willard B. Soper, M.D., American Review of Tuberculosis, Dec. 1930.

The cardinal symptoms of pulmonary asbestosis is dyspnea which is progressive. Chest expansion is reduced; the dyspnea may be accompanied by cyanosis, the complexion of most patients has a slightly leaden hue; cough may be slight, expectoration is moderate.

The physical signs are those of a bilateral pulmonary fibrosis affecting the pulmonic bases.

Features which serve to distinguish asbestosis and pulmonary tuberculosis are the leaden and dusky complexion, extreme dyspnea, wasting or emaciation out of all proportion to physical signs and the dry quality of the adventitious sounds. These with the absence of tubercle bacilli in the sputum and history of prolonged exposure to asbestos dust indicate the probable diagnosis.

The prognosis appears to be grave.

The essential features of the pathological changes, according to the author, are the pleurisy, the marked diffuse fibrosis and contraction of the lungs, and the presence of asbestos fibres and asbestos bodies.

Phrenicoexairesis in Pulmonary Tuberculosis. By Alexander T. Cooper, M.D., American Review of Tuberculosis, December, 1930.

According to the author, operation on the phrenic nerve is considered to be most useful in unilateral tuberculosis in which the lesions are practically limited to the central or lower part of one lung. Following such operation there is lessening of the distressing cough and expectoration. A definite elevation of the diaphragm can be expected in 60% of selected cases. It is also used as a preliminary step to an extrapleural thoracoplasty, to test out and increase the fibrosis in the contralateral lung.

Thoracoplasty. E. H. Bruns and Joseph Casper, American Review of Tuberculosis.

According to the author thoracoplasty compresses the diseased lung and obliterates cavities. In so doing it brings about healing in the compressed lung and by the closure and collapse of cavities it rids the patient of toxemia, harassing cough, positive sputum and the danger of hemorrhage and bronchogenic spreads. It also causes healing of lesions in the contralateral lung. Quiescent, sluggish lesions in the good lung are stimulated to renewed healing by an allergic reaction which results from the squeezing up and leeching out into the circulation of tuberculous products from the collapsed lung.

Hernia of the Mediastinum. By Charles C. Hablston, M.D., American Review of Tuberculosis, December, 1930.

According to the author, hernia of the mediastinum is of greater occurrence than the literature on the subject whould lead one to believe.

Clinically the symptoms of some pain may be experienced by the patient; dyspnoea is the most prominent feature, and cardiac palpitation has also been complained of. The physical findings are those of pneumothorax. A hyper-resonant note is found along the sternal border contralateral to the pneumothorax side; amphoric breath sounds are typical.

On fluoroscopic examination the hernia of the mediastinum appears as an evident bulge of light with a curving border, encroaching upon the normal area of the opposite lung. It appears at its greatest during forced expulsion and is either reduced markedly in size or entirely disappears on full inspiration.

The appearance of this condition is a signal to the pthisiotherapist to reduce the hernia by aspiration of air from the pneumothorax cavity, if symptoms be urgent, or to decrease the amount of size of refills at a lower pressure, and lengthening the interval between them.

Oleothorax. The Value of Intrapleural Injection of Olive Oil In Certain Phases of Pulmonary Tuberculosis; By Cesar Sillig and Milton C. Lang; American Review of Tuberculosis, Dec. 1930.

According to the author, the method consists in filling the pleural cavity with an antiseptic or aseptic oil, preferably olive oil.

Indications:

1. If during the treatment of artificial pneumothorax the patient develops serious pleurisy, as so often happens, which is not absorbed spontaneously or respond to tapping becomes chronic, and seriously affects the well being of the patient, or it becomes purulent, oleothorax should be considered. It replaces the serous or purulent fluid, prevents the reformation, disinfects the pleural cavity and maintains the pulmonary collapse.

2. The formation of adhesions causing failure of pneumothorax therapy constitutes another indication for the injection of the oil, which separates the pleural surfaces and lessens the danger of adhesions.

3. In certain types of perforation of lung into the pleural cavity the oil can serve to obliterate these perforations.

The author's method of treatment is as follows: When fluid is known to exist in the pleural space its level is ascertained by means of the fluoroscope and a place of puncture is selected. The puncture is made with a needle attached to a 20 c.c. syringe. The usual precautions are taken to be sure that the needle is in the pleural space. Ten c.c. of 5% gomenolated olive oil are injected into the pleural space. The patient is sent to bed and temperature watched. If there is no reaction in 24 to 48 hours then 50 c.c. then 100 c.c. are injected, increasing the amounts until blockage or filling of the pleural cavity is complete.

ORTHOPAEDIC SURGERY

Edited by W. K. West, M.D.
520 Osler Building, Oklahoma City.

The Treatment of Tuberculosis of the Joints of the Lower Extremities by Operative Fusion, by Russell A. Hibbs, New York City, N. Y., Journal of Bone and Joint Surgery, Volume 12, No. 4, October, 1930.

The writer advises open operation for ankylosing tuberculosis joints because he has found that no case of tuberculosis of a joint of the lower extremity treated by conservative method has been cured with a resulting normal mobility. While reports have been made as far back as 1887 by Schafer to the effect that conservative treatment has been effective in a certain percentgae of cases, the statistics are not accurate for two reasons: First is to the effect that the diagnosis was somewhat questionable.. And, second, the period of observation was too short.

Under the conservative treatment at intervals from one to ten years after discharge from a country branch of a New York Orthopedic Hospital, many of these cases began to show unmistakable signs of active disease and often these cases had been apparently showing the best results.

The operation for the production of artificial ankylosis of the joints was done on many of these cases and the actual condition of the joint structure was easily studied. In none of these cases had the cure been effected, nor was the disease considered quiescent, prior to the operation.

An end-result study was made of two hundred and eight patients with hip joint tuberculosis who had resided at the country branch several years, by Smith and Waters and published in the Journal of the American Medical Association, January 21, 1928. Of the total number, all of which had been under observation for at least four years, a large number had died and in a large number the disease was still active, and in a smaller number the disease seemed to be quiescent, but there was no motion or some degree of deformity and only two patients were free from symptoms and had a useful range of motion.

As a result of these findings, the operative fusion operation on the knee joint was first done in January, 1915, and in twelve years to 1926, fusion had been obtained in one hundred and fifty-four knee joints with proved tuberculosis.

In April, 1923, the first operation for hip joint fusion was done, and in the period to December, 1928, one hundred and fifty cases had been operated upon, securing fusion in ninety-two percent or one hundred and thirty-nine cases. In all cases of the ankle joint and the tarsal joints, fusion was obtained. In the cases in which complete bony ankylosis of the joints was obtained there has been no instance or a recurrence of the disease, and the patient's activity has been increased in spite of the stiffness of the joint, giving greater freedom, more confidence, no pain, and less fatigue. This is especially true of children and of the hip, ankle and tarsal cases. In the knee cases, the chief disability is especially in sitting.

An additional note is also made in this article to the effect that patients have been freed from the constant danger of life by extension of the disease from the active focus of the joint.

Dislocation of the Knee, by Dr. Joseph I. Mitchell, Memphis, Tennessee, Journal of Bone and Joint Surgery, Volume 12, No. 3, July, 1930.

This report consists of four cases of traumatic dislocation of the knee, and the average age is about thirty-seven, the youngest being thirty-one and the oldest forty-six. Diagnosis of dislocation of the knee is not difficult. However, X-rays are always taken to rule out any fracture complications.

In the four cases, the tibia was dislocated anteriorly in three cases, and posteriorly in one. It is important to closely observe the condition of the blood vessels and nerve trunks, as complications resulting from their injury are not uncommon.

Reductions of traumatic dislocations of the knee are not difficult. Early reduction gives the best chance for the best after-result. After reduction, a gutter splint, or plaster cast with knee slightly flexed, is applied. The fixation should be worn for several weeks, the average being about six weeks. In severe cases, a walking knee brace should be advised. Continuous traction in the treatment of traumatic dislocations of the knee should be avoided, this being a strain on the ligaments that have been severelv lacerated. Physiotherapy is beneficial, thereby restoring function of the muscles and ligaments in a methodical manner.

The results in this series of four cases were good after a sufficient length of time had elapsed for the healing of the ligaments, the ligaments thereby gaining sufficient strenght to prevent lateral instability. There is no fear of limitation of flexion or extension.

The Paralyses of Pott's Disease by Dr. Edward A. Rich, Ticoma, Washington, Journal of Bone and Joint Surgery, Volume 12, No. 1, January, 1930.

The writer outlines in a general way four types of paralysis resulting from tuberculosis spondylitis. While the occurrence of severe Pott's disease, which results in the deformity commonly known as the humpback, is rapidly disappearing from our clinics because of prophylaxis, we do see severe paralyses resulting from this disease.

In America this decrease has been rather rapid, but in Europe surgeons are still treating many terminal Pott's palsies because of the economic conditions. European surgeons were slow to take an interest in America's stabilizing spine operations which, undoubtedly, have prevented a great many cases of severe deformity, a high percent of which results in paralyses.

The writier outlines the paralyses as follows:

Type one is described as due to edema and is caused by a severe sudden tuberculosis involvement of the spine and completely paralyzes the affected limbs and body. The prognosis in this type is favorable, and, under proper treatment, normal function of the legs will return.

In type two, the spinal cord is interfered with from angulation due to a severe deformity. The prognosis in this type is also favorable. Case Report: Boy, age 13. Under proper treatment on a Bradford frame, an effort was made to hyperextend the spine thirteen months. An operation was then done in which a hemilaminectomy was done with relief of the constriction of the cord. After surgery, recovery was rapid—patient was able to walk in seven months.

Type three, paralysis from abscess pressure. The prognosis in this type is favorable. About two-thirds of the palsies of Pott's disease are caused by this abscess pressure. A case reported in this group, in which there was an abscess with draining sinuses, was treated over a long period of time and placed on a frame after a special apparatus had been incorporated in plaster above and below the kyphosis used to increase hyperextension. After several weeks, improvement of the paralysis was noted, and at the end of the year was pronounced paralysis-free.

Type four he describes as paralysis from pachymeningitis. The prognosis in this type is not favorable. It is a slow progressive palsy in which the thickened membranes may be a primary source of pressure on the cord. Laboratory reported villus pachymeningitis. One case reported showed that in spite of all the conservative treatment later followed by laminectomy, did not respond to treatment and developed tuberculosis meningitis and died.

In conclusion, the writer advises conservative treatment rather than surgical measures in these old neglected types of Pott's disease that have become paralyzed.

BOOK REVIEWS

Abdomino-Pelvic Diagnosis in Women. By Arthur John Walsheid, M.D., Director of Obstetrical and Gynecological Department of Broad Street Hospital; Director of Obstetrical and Gynecological Department of Pan-American Medical Center and Clinics, New York City; Consultant in Gynecology and Obstetrics to Margaret Hague Maternity Hospital, Jersey City, N. J.; Consulting Gynecologist to Bergen County Hospital, Ridgewood, N. J.; Consulting Gynecologist to the F. Reuter Home, North Bergen, N. J. With Three Hundred Ninety-seven Illustrations, One Color Plate Cloth. 1000 pages. Price $12.50.

For several years the medical reader had literally a flood of medical books upon gynecology and allied gynecological matters. These, as a rule, followed a rather definite plan and were very much of a sameness in their arrangement and information offered. This volume differs from all these in its intent and arrangement. It is first intended for the post-graduate student and general practitioner, though the under-graduate should find it useful for reference and collateral reading. It is limited strictly to the diagnostic field. It is divided into a general and special section; the first dealing with general causal factors, pathologic process, symtoms and diagnosis; while the latter considers the special organs from the standpoint of diagnosis. A helpful feature is the introductions from time to time, of case histories, which are taken from the writings of eminent diagnosticians of the leading countries. Naturally the illustrations, to a remarkable degree, are those of pathologic processes. These illustrations are all new and of course go far toward aiding the text. We consider this a remarkable edition.

Modern Surgery. By J. Chalmers DaCosta, M.D., LL.D., F.A.C.S., Samuel D. Gross, Professor of Surgery Jefferson Medical College, Surgeon to Jefferson Medical College Hospital, Consulting Surgeon to the Philadelphia General Hospital, St. Joseph's Hospital and Misericordia Hospital, Philadelphia. Assisted by Benjamin Lipshutz, M.D., F.A.C.S., Surgeon to the Mt. Sinai Hospital; Associate in Neuro-anatomy, Jefferson Medical College. Tenth Edition, Revised and Reset. 1404 pages with 1050 illustrations, some in colors. Philadelphia and London: W. B. Saunders Company, 1931. Cloth, $10.00.

Ten editions of this great volume on Surgery testify to its popularity. Professor DaCosta states that he has personally taken the course of revising the different sections instead of having them looked after by friends and associates. The only section standing untouched being that of Doctor Chevalier Jackson, the eminent bronchoscopist. It seems to us that many new illustrations have been added to this work. It is unnecessary to note that the work of Professor DaCosta has for many years been and still stands, preeminent as an authority on surgery. We can hardly conceive of a more complete volume on surgery and we know of none which covers such a wide field.

Practical Radiation Therapy. By Ira I. Kaplan, B.S., M.D., Director, Division of Cancer, Department of Hospitals, New York City; Attending Radiation Therapist, Bellevue Hospital: with a special chapter on, Applied X-Ray Physics. By Carl B. Braestrup, B.Sc., P.E., Radiation Physicist, Division of Cancer, Department of Hospitals, Physicist to Mt. Sinai Hospital, New York City. 354 pages with 227 illustrations. Philadelphia and London: W. B. Saunders Company, 1931. Cloth, $6.00.

The author of this work has under his direction for care and treatment by radiation about 2000 cases annually. So many requests have come to him for advise and instruction upon employment of X-ray and radium, and for another tragic reason, Dr. Kaplan believes that his book describing the use and technic of radium therapy is justifiable. We agree with this. The internist, surgeon and radiotherapist are constantly finding themselves in the best interest of their patients, forced to decide whether radiation in some form, radiation followed by surgery, or a general mixture of the two is best. So any work pointing out the deciding factors should be helpful to physicians. The absolute necessity for the sensible application of radium to some types of pathology is now accepted beyond question as the proper procedure.

Traumatotherapy. By John J. Moorhead, B. Sc., M.D., F.A.C.S., Professor of Surgery and Director, Dept. of Traumatic Surgery, New York Post-Graduate Medical School and Hospital; Surgical Director, Reconstruction Hospital Unit; Colonel Medical Officers Reserve Corps, U. S. Army. 574 pages with 625 illustrations. Philadelphia and London: W. B. Saunders Company, 1931. Cloth, $7.00.

Doctor Moorhead, as we remember, was previously the author of a very useful work on "Traumatic Surgery." This work attempts to designate the technic and treatment by reason of its supreme importance in traumatic surgery and to that end it attempts to detail the actual management of all the usual and most of the unusual effects of trauma.

Busy, modern, American life is so highly mechanized, so many thousands of people are employed in or about or are so directly concerned with our machines that annually various types of injuries must be expected. Corporations, employers and insurance carriers appreciate very well the value of proper first aid and a maintained sensible technic that they demand such without question. It is to the end of an orderly technic that the efforts of this book are directed. The illustrations are practically all new and will be of great help to the physician.

SODOKU TREATMENT IN PARESIS

Alex S. Hershfield, O. A. Kibler and Selma Colby, Chicago, M. T. Koenig, Elgin, Ill., O. W. Schmid, Kankakee, Ill., and Anny Marea Saunders, Chicago (Journal A.M.A., March 9, 1929), report on seventy-two patients who were inoculated with the rat bite fever organism. These patients were inoculated about the same time with Spirochaeta morsus-muris. All of the cases had been classified as paresis with the exception of two or three, which had been diagnosed as taboparesis. All of the patients were inoculated with the blood of an infected guinea-pig. In some pre-

vious inocuations the blood of an infected rat had been used but no reaction was obtained. Two-tenths cubic centimeter of blood drawn directly from the heart of the guinea-pig was injected subcutaneously in the upper and inner aspect of the left thigh. All patients were put to bed and remained there until complete recovery had taken place. Ten patients died during the treatment, two from pneumonia, one from myocarditis, one in an accident, and four from paresis (these patients had been in poor condition before inoculation and did not show any reaction to the infection). Only two deaths could be directly attributed to the rat bite fever infection. After one year of observation the authors noted the following approximate percentage of improvement: Fifty per cent of the patients were more or less physically improved; 20 per cent showed from slight to marked mental improvement; 60 per cent did not show any difference mentally; 10 per cent at first showed improvement mentally and then became worse. It is quite evident that the height of fever did not have any bearing on the degree of improvement. In fact, many patients with a moderate fever curve showed better mental improvement than those with excessive temperatures. The physical improvement occurred at the earliest time and was most pronounced; many patients gained more in weight after the treatment than they had weighed for many years previous. Neurologic improvement could not be definitely demonstrated. Mental improvement occurred later than physical improvement.

RIGGS OPTICAL COMPANY ANNOUNCES NEW CHICAGO MANAGEMENT

Mr. Edw. W. Arnold, well known territorial superviser for Riggs Optical Company has been selected as manager of this company's Chicago city office. Mr. Arnold has had many years' training and experience in the optical field. He is a qualified executive and is conversant with all phases of optical work and service. He has shown unusual ability to serve and please his clientele. His knowledge of the problems which confront the profession and his co-operative spirit will be welcomed indeed by those in the territory served by Riggs.

Mr. J. A. Lynch, who also has a long and creditable record in optical circles has been selected as assistant to Mr. Arnold.

LABORATORY-ENDORSED THERAPEUTIC AGENTS

W. H. Manwaring and A. P. Krueger, Stanford University, Calif. (Journal A. M. A., July 13, 1929), assert that three decades of clinical experience with laboratory-endorsed vaccines and antiserums give ample data from which to calculate the probability coefficient for this class of therapeutic agents. Hundreds of theretically logical, laboratory-endorsed vaccines and antiserums have been tried by clinicians; 95 per cent of them have been thrown into the clinical discard. An impartial mathematician would conclude from this that fundamental immunologic theories and current experimental laboratory methods assay, less than 5 per cent clinically verifiable truth. He would unhesitatingly predict that, of twenty theoretically logical, laboratory-endorsed vaccines and antiserums, only one would prove a clinical success. It would be more difficult for a mathematician to make an equally reliable calculation for laboratory-endorsed agents in collateral fields of applied immunology; for example, the current laboratory-endorsed bacteriophage. Previous experience with biologic antiseptics of this class has been too meager for more than an approximate estimate. He would be forced to base his approximation on two or three imperfect parallels, with serum bacteriolysin and leukocytic extracts as the closest historical examples. If forced to make an approximate calculation from available historical data, a statistician would probably take the average of the demonstrated clinical zero for leukocytic extract, the 1 per cent clinical value of serum bacteriolysin and the maximum immunologic efficiency, 5 per cent. This average is 2 per cent. A liberal approximation would be 3 per cent, which is surely a therapeutic gamble, with the odds at least 30 to 1 against clinical success.

A NEW METHOD OF ROENTGEN PELVIMETRY

Herbert Thomas, New Haven, Conn. (Journal A. M. A., May 4, 1929), reports on a new method of roentgen pelvimetry. In detail, his technic is as follows: (1) Two points on the external body of the patient are identified; viz., the upper and anterior border of the symphysis pubis and the space between the fourth and fifth lumbar vertebrae posteriorly. The latter is marked with a small adhesive tab. An imaginary line between these two points traverses the anteroposterior diameter of the inlet. (2) The patient is placed in a comfortable recumbent position on the x-ray table, with the back supported and the lower 4 or 5 inches (10 or 12 cm.) of the back uncovered. (3) The distance of the adhesive tab above the table is measured with calipers and a plumb line above the symphysis fixes the distance of the symphysis anteriorly. (4) The tube or target is centered in the median line about 5 cm. posterior to the upper border of the symphysis, with the tube about 3 feet (90 cm.) above the sensitive plate. The exposure is made. (5) With the tube and plate still in situ, the patient is removed from the table. The perforated lead plate is placed in the same plane as that occupied by the superior strait. This is accomplished by means of the plumb line and calipers already mentioned. A second (flash) exposure is made on the same plate. (6) The plate is developed and viewed. Diameters in centimeters may be read directly, as each space between dots represents 1 cm. in the plane of the superior strait. The lead is 1 mm. in thickness and mounted on a board that is adjustable on two upright standards. The whole face of the lead plate has been ruled in centimeter squares and each intersection perforated by a small hole. An electrically driven dentist's drill is useful in making these perforations. Thoms feels that the conclusion is therefore justified that if present methods of external pelvimetry are worth anything in diagnosis and prognosis in obstetrics, roentgen pelvimetry is worth infinitely more. Its value in connection with anthropometric studies is obvious. A method in obstetrics to be of value must be rapid, accurate and safe. This method of superior strait pelvimetry has ably fulfilled these requirements.

OFFICERS OKLAHOMA STATE MEDICAL ASSOCIATION

President, 1930-31, Dr. E. S. Ferguson, Oklahoma City.

President-elect, Dr. Henry C. Weber, Bartlesville.

Secretary-Treasurer-Editor, Dr. Claude A. Thompson, Muskogee.

Meeting Place, 1931, Oklahoma City, May 11, 12, 13.

Delegates to A. M. A.: Dr. Albert W. Cook, Tulsa, 1931-32; Dr. Horace Reed, Oklahoma City, 1931-32; Dr. McLain Rogers, Clinton, 1930-31.

CHAIRMEN OF SCIENTIFIC SECTIONS

General Medicine: Dr. Ben H. Cooley, Chairman, Norman; Dr. Henry H. Turner, Secretary, 1200 North Walker, Oklahoma City.

Eye, Ear, Nose and Throat: Dr. Ruric N. Smith, Chairman, Medical Arts Building, Tulsa; Dr. A. L. Guthrie, Secretary, Medical Arts Building, Oklahoma City.

Surgery: Dr. W. C. Vernon, Chairman, Okmulgee; Dr. Leonard Williams, Secretary, 1200 North Walker, Oklahoma City.

STANDING COMMITTEES 1930-1931

Scientific Work. Dr. R. M. Howard, Chairman, Oklahoma City; Dr. P. P. Nesbitt, Tulsa; Dr. A. B. Chase, Oklahoma City; Dr. C. A. Thompson, Muskogee.

Public Policy and Legislation. Dr. J. M. Byrum, Chairman, Shawnee; Dr. R. V. Smith, Tulsa; Dr. McLain Rogers, Clinton.

Medical Defense. Dr. L. S. Willour, Chairman, McAlester; Dr. Wm. Gallaher, Shawnee; Dr. F. M. Adams, Vinita.

Medical Education and Hospitals. Dr. A. S. Risser, Chairman, Blackwell; Dr. A. W. White, Oklahoma City; Dr. Fred Clinton, Tulsa.

Medical Economics. Dr. W. H. Bailey, Chairman, Oklahoma City; Dr. J. Hutchings White, Muskogee, Dr. T. C. Sanders, Shawnee.

SPECIAL COMMITTEES 1930-1931

Tuberculosis Study and Control. Dr. L. J. Moorman, Chairman, Oklahoma City; Dr. F. P. Baker, Talihina; Dr. R. M. Shepard, Tulsa.

Conservation of Vision. Dr. W. A. Cook, Chairman, Tulsa; Dr. C. B. Barker, Guthrie; Dr. Milton K. Thompson, Muskogee.

Conversation of Hearing. Dr. L. C. McHenry, Chairman, Oklahoma City; Dr. Chas. M. Fullenwider, Muskogee; Dr. H. S. Brown, Ponca City.

Venereal Disease Control. Dr. Rex Boland, Chairman, Oklahoma City; Dr. Henry S. Browne, Tulsa; Dr. S. D. Neeley, Muskogee.

Cancer Study and Control. Dr. E. S. Lain, Chairman, Oklahoma City; Dr. James Stevenson, Tulsa; Dr. Frank McGregor, Mangum.

Contract and Industrial Practice. Dr. Pat Fite, Chairman, Muskogee; Dr. C. E. Clymer, Oklahoma City; Dr. A. Ray Wiley, Tulsa.

Crippled Children. Dr. Wade Sisler, Chairman, Tulsa; Dr. Earl D. McBride, Oklahoma City; Dr. W. K. West, Oklahoma City.

Necrology. Dr. Ellis Lamb, Chairman, Clinton; Dr. R. M. Anderson, Shawnee; Dr. J. S. Fulton, Atoka.

Publicity. Dr. C. A. Thompson, Muskogee.

STATE BOARD OF MEDICAL EXAMINERS

Dr. D. W. Miller, Blackwell, President; Dr. J. M. Byrum, Shawnee, Secretary; Dr. W. P. Fite, Muskogee; Dr. H. C. Weber, Bartlesville; Dr. W. T. Ray, Gould; Dr. L. E. Emanuel, Chickasha; Dr. Frank McGregor, Mangum.

STATE COMMISSIONER OF HEALTH

Dr. C. W. Beson, Oklahoma City.

COUNCILORS AND THEIR COUNTIES

District No. 1. Texas, Beaver, Cimarron, Harper, Ellis, Woods, Woodward, Alfalfa, Major, Dewy, Dr. H. A. Lile, Cherokee. (Term expires 1932).

District No. 2. Roger Mills, Beckham, Greer, Harmon, Washita, Kiowa, Custer, Jackson, Tillman. Dr. Frank H. McGregor, Mangum. (Term expires 1932).

District No. 3. Grant, Kay, Garfield, Noble, Payne, Pawnee. Dr. Paul B. Champlin, Enid. (Term expires 1932).

District No. 4. Blaine, Kingfisher, Canadian, Logan, Oklahoma, Cleveland. Dr. LeRoy Long, Sr., Oklahoma City. (Term expires 1932).

District No. 5. Caddo, Comanche, Cotton, Grady, Love, Stephens, Jefferson, Carter, Murray. Dr. J. C. Ambrister, Chickasha. (Term expires 1932).

District No. 6. Osage, Creek, Washington, Nowata, Rogers, Tulsa. Dr. W. A. Howard, Chelsea. (Term expires 1932).

District No. 7. Lincoln, Pottawatomie, Okfuskee, Seminole, McClain. Dr. Wm. M. Gallaher, Shawnee. (Term expires 1931).

District No. 8. Craig, Ottawa, Mayes, Delaware, Wagoner, Adair, Cherokee, Sequoyah, Okmulgee, Muskogee. Dr. F. M. Adams, Vinita. (Term expires 1931).

District No. 9. Hughes, Pittsburg, Haskell, Latimer, LeFlore, McIntosh. Dr. Leonard S. Willour, McAlester. (Term expires 1931).

District No. 10. Johnson, Marshall, Coal, Atoka, Bryan, Choctaw, Pushmataha, McCurtain. Dr. J. S. Fulton, Atoka. (Term expires 1931).

CLASSIFIED ADVERTISEMENTS

SITUATIONS WANTED — Salaried Appointments for Class A Physicians in all branches of the Medical Profession. Let us put you in touch with the best man for your opening. Our nation-wide connections enable us to give superior service. Aznoe's National Physicians' Exchange, 30 North Michigan, Chicago. Established 1896. Member The Chicago Association of Commerce.

FOR SALE—One Victor Snook X-Ray machine, late model, complete with Coolidge Transformer and Controller and with Stabilizer, for 220 volts, 60 cycles, A. C., guaranteed to be as good as the day it left the factory. Bargain if taken quick. Address "M" care this Journal.

Lac-Bismo

(HART)

See Description, Journal A. M. A. Volume XLVII, Page 1488.

A Scientific combination of Bismuth Subcarbonate and Hydrate suspended in water. Each fluidrachm contains 2½ grains of the combined salts in an extremely fine state of subdivision.

Medical Properties: Gastric Sedative, Antiseptic, Mild Astringent and Antacid.

Indications: In Gastro-Intestinal Diseases, Diarrhoea, Dysentery, Cholera-Infantum, etc. Also suitable for external use in cases of ulcers, etc.

E. J. HART & CO., Ltd., Mfg. Chemists
New Orleans

OFFICERS OF COUNTY SOCIETIES, 1931

COUNTY	PRESIDENT	SECRETARY
Adair	I. W. Rogers, Watts	D. P. Chambers, Stilwell
Alfalfa	Z. J. Clark, Cherokee	L. T. Lancaster, Cherokee
Atoka-Coal	J. S. Fulton, Atoka	C. C. Gardner, Atoka
Beckham		T. J. McGrath, Sayre
Blaine		W. F. Griffin, Watonga
Bryan	J. T. Wharton, Durant	J. L. Shuler, Durant
Caddo	J. H. Cantrell, Carnegie	P. H. Anderson, Anadarko
Canadian	Wm. J. Muzzy, El Reno	A. L. Johnson, El Reno
Carter	R. H. Henry, Ardmore	R. C. Sullivan, Ardmore
Cherokee		
Choctaw		
Cleveland	M. M. Wickham, Norman	D. G. Willard, Norman
Coal (See Atoka)		
Comanche		L. W. Ferguson, Lawton
Craig	D. B. Stough, Vinita	P. L. Hays, Vinita
Creek	C. L. McCallum, Sapulpa	G. C. Croston, Sapulpa.
Custer	Lealon L. Lamb, Clinton	E. E. Darnell, Clinton
Garfield	S. H. McEvoy, Enid	John R. Walker, Enid
Garvin	L. P. Smith, Elmore City	J. R. Callaway, Pauls Valley
Grady	W. H. Livermore, Chickasha	H. M. McClure, Chickasha
Grant	A. Hamilton, Manchester	E. E. Lawson, Medford
Greer	J. T. Lowe, Mangum	J. B. Hollis, Mangum
Harmon	Jas. E. Jones, Hollis	Russell H. Lynch, Hollis
Haskell		R. F. Terrell, Stigler
Hughes	W. L. Taylor, Gerty	D. Y. McCary, Holdenville
Jackson	E. S. Crow, Olustee	E. W. Mabry, Altus
Jefferson	F. M. Mingus, Ringling	Wm. C. Burgess, Ringling
Kay		M. S. White, Blackwell
Kingfisher		
Kiowa	A. H. Hathaway, Mt. View	J. H. Moore, Hobart
Latimer	T. L. Henry, Wilburton	E. B. Hamilton, Wilburton
LeFlore		W. F. Lunsford, Poteau
Lincoln	J. S. Rollins, Prague	F. H. Norwood, Prague
Logan		R. F. Ringrose, Guthrie
Marshall	P. F. Robinson, Madill	J. H. Veazey, Madill
Mayes		Sylba Adams, Pryor
McClain	I. N. Kolb, Blanchard	O. O. Dawson, Wayne
McCurtain	R. D. Williams, Idabel	R. H. Sherrill, Broken Bow
McIntosh		W. A. Tolleson, Eufaula
Murray	O. W. Sprouse, Sulphur	H. C. Bailey, Sulphur
Muskogee	Wm. P. Fite, Muskogee	E. H. Coachman, Muskogee
Noble	B. A. Owen, Perry	J. W. Francis, Perry
Nowata		S. P. Roberts, Nowata
Okfuskee		J. A. Kennedy, Okemah
Oklahoma	J. M. Alford, Okla City	K. J. Parks, Okla City
Okmulgee	W. S. Watson, Okmulgee	M. B. Glismann, Okmulgee
Osage	M. Karasek, Shidler	M. E. Rust, Pawhuska
Ottawa	F. V. Meriwether, Miami	W. G. Chesnut, Miami
Pawnee		
Payne	C. E. Sexton, Stillwater	R. E. Roberts, Stillwater
Pittsburg	W. W. Sames, Hartshorne	F. L. Watson, McAlester
Pontotoc	E. A. Canada, Ada	W. F. Dean, Ada
Pottawatomie		F. Clinton Gallaher, Shawnee
Pushmataha	D. W. Connally, Clayton	John S. Lawson, Clayton
Rogers	A. M. Arnold, Claremore	W. A. Howard, Chelsea
Seminole	T. H. Briggs, Wewoka	H. A. Kiles, Konawa
Stephens		D. Long, Duncan
Texas		R. B. Hayes, Guymon
Tillman	Coyne H Campbell, Frederick	J. C. Reynolds, Frederick
Tulsa	Henry S. Browne, Tulsa	Carl F. Simpson, Tulsa
Wagoner		John D. Leonard, Wagoner
Washington		J. V. Athey, Bartlesville
Washita		C. B. Sullivan, Colony
Woods	J. E. Hammer, Kiowa, Kans.	O. E. Templin, Alva
Woodard		C. J. Forney, Woodward

NOTE—Corrections and additions to the above list will be cheerfully accepted.